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Popular Boating

Volume 14 No. 2 August, 1963

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Cover: Exploring the depths with SCUBA gear, barrelling offshore after gamefish, or hitting the beach for charcoal steak cooked over an open fire at sunset, boatmen have it made. The upper right and lower right photographs are by Russ Kinne.

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5/16"	2,800 lbs.	7c ft.	3/4"	14,000 lbs.	35c ft.
3/8"	3,400 lbs.	9c ft.	7/8"	17,500 lbs.	46c ft.
7/16"	5,000 lbs.	12c ft.	1"	23,500 lbs.	60c ft.

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3/16"	1,000 lbs.	5c ft.	5/8"	6,500 lbs.	40c ft.
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3/8"	3,000 lbs.	14c ft.	1/4"	1,300 lbs.	6c ft.
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1963 Marine Specialties Catalog FREE

READER REPORTS

Australia Fights Back

• Rarely am I moved to disagree with a boating editor, but I must, Sir, deprecate the tone of your March editorial "Aussie Papers Cry 'Luck'".

The *Hobart Mercury* did cry "luck"—but after all, that is but one editor of one newspaper in one state of Australia. In contrast, our oldest yachting magazine, *Power Boat and Yachting*, reports:

"Crack American blue-water racer, *Ondine*, drove home to Australian yachtsmen the lesson begun by *Weatherly* earlier in 1962."

Please believe that Australian yachtsmen are no different from their American counterparts. They sail to win, but they love a good ship, whatever flag she sails under.

I. T. Matheson
Sydney, Australia

The Hobart Mercury *took such great pains to make light of* Ondine's *victory that we felt obliged to take issue with their statements. We realize that the* Mercury *did not express the opinions of the majority of Australian yachtsmen.—Ed.*

Newport Redevelopment

• I was very pleased with your article, "New Look for Newport" in the June issue. Certainly this will be of very great assistance to us in interesting developers in our Urban Renewal projects, and will aid the city generally in attracting tourists and boating enthusiasts.

William H. Leys
Executive Director
Redevelopment Agency of Newport
Newport, R. I.

Decorating Never Ends

• I was delighted with the information in Betty Massman's article on redecorating (June issue), and hope that there will be more written on new materials being used. As you know, one never finishes decorating a boat. It is a continuous operation.

Mrs. Massman's ideas were a great help to us and we plan to incorporate some of her suggestions into our boat.

Mrs. Sherwood Schank
New York, N.Y.

Safety Equipment

• I have just read your feature on used boats in the June issue. The subject was covered exceptionally well and the two short articles, one on the used boat lot and the other about Boats Unlimited, gave me great food for thought about this rapidly expanding industry.

It would seem that it is time that the industry set up a testing program, similar to the tests you conduct, that would impartially evaluate boats.

Also, I would like to suggest that all manufacturers be required by law to include on new boats: electric windshield wipers, bilge pump, sea cocks, safety glass throughout, two batteries per engine with vapor proof switches, adequate watertight compartments, and a bilge blower. These items are necessary for safe operation of a boat. Anyone buying a new boat should rightfully expect it to be capable of safe operation.

E. Jack Spiegal
New York, N.Y.

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If you are one of the "select, few hundred thousand" who is contemplating the purchase of an outboard boat and motor this year—we'd like to call your attention (respectfully, of course) to what we feel is a one-in-a million chance to get a lot more for your dollars. Both the Model 2200 Trojan Sea Skiff Martinique and her sister ship, the Manhattan (21'6" L.O.A.), offer you the prestige of inboard boat ownership to say nothing of its well-known fuel economy. When you put your money down on one of these easy-to-handle honeys—that's it. Nothing else to buy unless you want to add frills. What's so hot about these two numbers, you say?

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- mammoth cockpit with plenty of room for fishing, water skiing and skin diving gear plus lots of companions. There's room for four bucket seats.
- genuine teak decks and selected oak frames

We could go on and on but not here. For your own sake, see these beauties at your nearest Trojan dealer's and ask him for complete literature or write for it directly to:

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Next issue, look for:

Special Electronics Section bringing you a round-up of the newest equipment in the field of navigation and communication. This is more than a product story. You'll find a forthright analysis of electronic gear in terms of "what's best for your boat;" a feature on minimum electronics for the smallest craft; special stories on depth sounders, radio direction finders, radio telephones, and radar, plus a review of the latest government regulations and how they affect new and existing gear.

Winning Driver Reports on the Albany to New York powerboat race. Popular Boating's test editor, Hank Bowman, provides an exciting report on his record-smashing run down the Hudson river.

Tearing Up the Ocean is the title of P.B.'s first hand coverage of the International Blue Marlin Tournament which was recently held off Cape Hatteras, N.C. Associate Editor Jim Munro tells his experiences as observer aboard competing sportfishermen.

Additional Features: Interior Design Ideas for Houseboats; Common-Sense Study of Trailer Hitches; Boatbuilding for Amateurs (Part II), and the Cruise of the *Peregrine*.

FROM THE QUARTERDECK

Change of Command

All hands are mustered on the quarterdeck today to salute our skipper, publisher Richard Manning, who is departing from the good ship POPULAR BOATING. Dick was with the magazine at its inception seven years ago. He set up the guide lines that shaped the character of the magazine. He established the standards of integrity and editorial excellence that, in a remarkably short time, made POPULAR BOATING the largest selling boating publication in the world. So, as Dick steps down the gangway, we raise our hands in respect and appreciation. He carries with him our warm wishes for fair winds and good sailing.

With equal vigor and sincerity, we pipe aboard our new skipper—Sydney H. Rogers, who will take the helm as publisher. Syd has the qualities of command. He is one of those dedicated sailing men. He's been in everything from dinghies to ocean racers, and was aboard *Katama*, a 40' yawl, in this summer's Transatlantic race. Syd began his five years in the Navy as an enlisted man and was mustered out a two-striper. He saw duty on submarines and destroyers, having been a watch officer and navigator on the latter. He has had a highly successful business career and relinquishes this, now, to meld his vocation and avocation. On behalf of the POPULAR BOATING crew I say "welcome aboard, Syd; it will be a pleasure to serve with you."

Bob Carrick

Editor

New Texaco Sky Chief Marine Gasoline gives full protection against gum, prevents fuel-line clogging

Gum that clogs fuel lines and carburetors, and sticks valves, is a big problem with boatmen today. It's the sticky substance that comes from the oxidation of unstable hydrocarbons in some gasolines. It forms in your gasoline—and then clogs both gas line and carburetor. Texaco's new Sky Chief Marine Gasoline solves the gum problem. It contains special Texaco stabilizers that are blended right into it to give you full protection against gum. Even when your boat is idle for long periods of time, gum never gets a chance to form. You get other benefits, too, when you fill up with Texaco's new Sky Chief Marine Gasoline. It fights rust, keeps your engine clean, cuts down engine wear—particularly during the critical warm-up period. So next trip, steer straight for the nearest Texaco Marina. Fill up confidently with new Sky Chief Marine Gasoline. You can *trust the man who wears the star.*

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NEW ENGINE CARE PRODUCTS
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Your outboard motor can suffer from loss of power due to sticky compression rings, gum, varnish and carbon deposits.

Now, two great new products from OMC Accessories can assure you continuous peak performance every boating day of your year. Engine Cleaner *frees* rings, *cleans out* gum, varnish and carbon, and *restores* your motor to peak power and performance. And Rust Preventative Oil will keep it rust and corrosion free, inside and out, for as long as you own it. These and other fine products from OMC Accessories are available at Evinrude, Gale and Johnson dealers.

Quality accessories for people who like boating from people who know boating best . . .

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OVER THE TRANSOM

O'Day Series Goes to Southern California

Alamitos Bay has been selected as the site for the 1963 North American Single-handed Sailing Championships with Alamitos Bay Y.C. and Long Beach Y.C. acting as co-hosts July 17th through 21st. The championship is sponsored by the North American Yacht Racing Union. The first series for this trophy was held last year at Seawanhaka-Corinthian Y.C., N.Y. and was won by Peter Barrett of Madison, Wis.

Welcome Aboard!

After spinning out during the Belle Island Outboard Club Regatta in Detroit, Blaine Puterbaugh landed on top of Ralph E. Davidson. Davidson ducked, then turned around for a look at his unexpected and unwelcome guest. Davidson suffered only a scratch on his back.

USPS to Write New Text

Spurred on by the successes of its textbook on engine maintenance, the Governing Board of USPS has appropriated the necessary funds for writing and publishing a new text for the Seamanship Course. Work is starting immediately on the new book which will replace *Piloting, Seamanship, and Small Boat Handling* by Charles F. Chapman, the course bible for many years.

Miami Outboard Club Regatta

"Wild and woolly" was the way one spectator described the fifth annual running of the International Invitational Regatta of the Miami Outboard Club. Five boats flipped or sank during the 11-race program on a choppy Biscayne Bay. Fortunately, there were no injuries.

The most spectacular event was the E and F service Runabout race. A small skiff crammed with five startled passengers ventured onto the course just as the six contestants screamed across the starting line. Frantic swerving enabled the drivers to avoid the boat whose occupants are still shaking.

Class winners were: Billy Hutchins, A and B Stock Hydroplanes; Harry Pinner, C Stock Hydros; John Wilson, D Stock Hydros; Herbert Moore, DU Runabouts; Del Daily, E and F Service Runabouts; Jim Brennan, 266 Cubic-inch Hydros; Don Williams and John McKillip, E Pleasure Craft; Treasure Sewares, F, G, and H Pleasure Craft; and Steve Malone, U and JJ Pleasure Craft.

That's the Way the Wind Blows

The first three sailing events for cruising boats saw Long Island Sound up to its old tricks of light-and-variable winds frustrating skippers and crews. The New York Athletic Club's season opener from Execution Rocks to Stratford Shoal and return was an up-and-down drifter which took some contestants as many as 30 hours to complete the 60 mile course. Winner of this race for the Winged Foot Trophy was Emil Capita's *Hi Q*.

The Edlu Trophy Race, the following weekend, wasn't exactly windy either, although two old favorites DeCoursey Fales *Nina* (Black Watch Bowl—First to Finish) and Richard S. Nye's *Carina* (Edlu Trophy—First on corrected time) found what breeze there was and took home the bulk of the silverware. *Carina* was under the command of her owner's son, Richard B. Nye.

Arthur Knapp, sailing *Winnie of Bourne*, couldn't believe that the 28' *Wolverine* belonged in the same class as the 35 to 40 footers. He tried in vain to convince *Wolverine's* helmsman that he was starting in the wrong class.

A good breeze blew the Class I boats down the sound to Six mile Reef and over to Mattituck. Then it died and left the rest of the fleet of 98 boats still struggling to round either Six mile or Mattituck and bucking a foul tide for the next six hours. It is interesting to note that Harold Scott's *Dawnell*, last year's Edlu Trophy winner, was within three boats of bringing

[*continued on page 10*]

Captain Pittman's Rope Corner

Captain Pittman is a veteran of many years' experience with ships and the sea. He formerly operated schooner and square-rigged sailing vessels out of Newfoundland, and recently was a Rigger First Class at the Boston Navy Yard. Du Pont will regularly bring you his valuable advice on ropes and boat handling in this magazine.

"Here's how 'a little stretch' saves your boat from tides"

"It's not easy to judge the exact level of tides, even if you're familiar with the waters. Too much slack left in your dock lines will let your boat surge dangerously fore and aft! A NYLON rope helps solve this problem—it doesn't need so much slack. Because NYLON rope has great working ability . . . the 'extra little stretch' for safety, as it's called. Your rope will give and take with the tide, yet hold firm with high-energy absorption. I definitely recommend Du Pont Type 707 NYLON rope. It's not affected by mold; won't rot or decay. You'll get longer rope life because it has twice the strength of manila and the ability to withstand more shock load. Especially important when depending on your lines to hold."

■ For our free booklet on lines of Du Pont Type 707 NYLON see your boating dealer or write us direct: Du Pont Co., DM 16604, Wilmington 98, Del.

TYPE 707 NYLON

DU PONT

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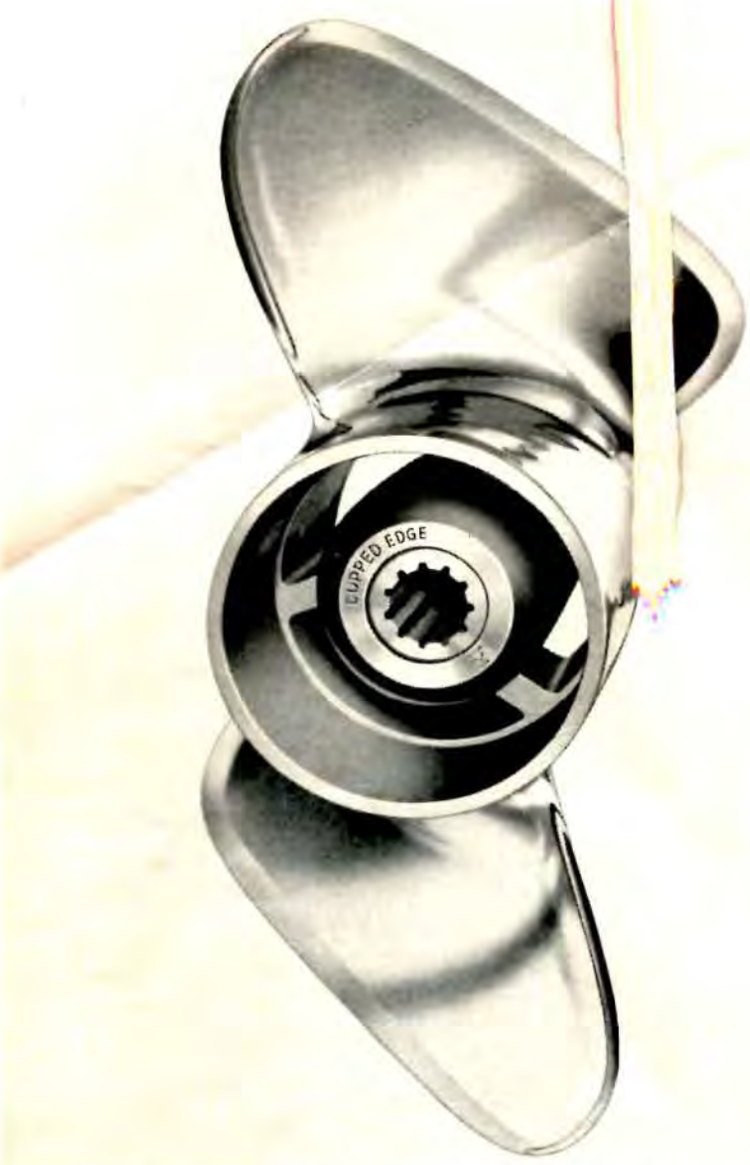


Make a Mercury really go!

Many owners of Mercury through-the-hub-exhaust outboards have obtained 2 to 4 mph increases by switching to Michigan's new "Straight-Line design" cupped propellers. Engineered to promote long engine life and fuel economy, these famous Michigan propellers will stand unbelievable abuse and are readily repairable, in rare instances where damage occurs. Made of Michalloy-K bronze, these wheels carry a lifetime guarantee against blade breakage at the hub. The one-piece construction, with perfectly smooth contour which eliminates drag, plus the revolutionary cupped edge principle, account for the tremendous speed and performance you'll likely get when you try one. Michigan has over sixty years of experience in design, engineering and manufacture of propellers. If you really want to go, buy from people who know. See your dealer or write Michigan Wheel Company, Grand Rapids 2, Michigan.

MICHIGAN

3-24

Over the Transom

[*continued from page 8*]

up the rear of the fleet. Charlie Dow's *Princess Pat*, Class III winner in 1961, placed last in his class this year. If nothing else, at least the lousy weather spreads the joy around. The winning boats in Classes II, III, and IV are all newcomers in the ranks, while many of the boats that place consistently went down the drain.

Storm-Trysail's Race

The Block Island Race was almost a carbon copy of the preceding two. It had the added flavor of a capricious northerly bucking a determined southerly shortly after the start. The result of this bit of whimsy was aptly described by an Englishman sailing for his first time on the Sound. Said Steve Johnson aboard *Kittiwake*, "There we were with boats on one side on the starboard tack, boats on the other side on the port tack, and us in the middle on no bloody tack at all."

Fred Lorenzen's Block Island 40, *Seal*, rating in the middle of Class C, was first boat through Plum Gut on the sail out to Block Island. Fred gave his crew quite a tongue lashing as he watched an unidentified boat gaining rapidly on *Seal*. The boat they were trying to stay ahead of was Walter S. Gubelmann's 71′ yawl, *Windigo*, scratch boat in the fleet. As *Windigo* passed and identified her rival, her helmsman gave Fred a sportsmanlike "well done."

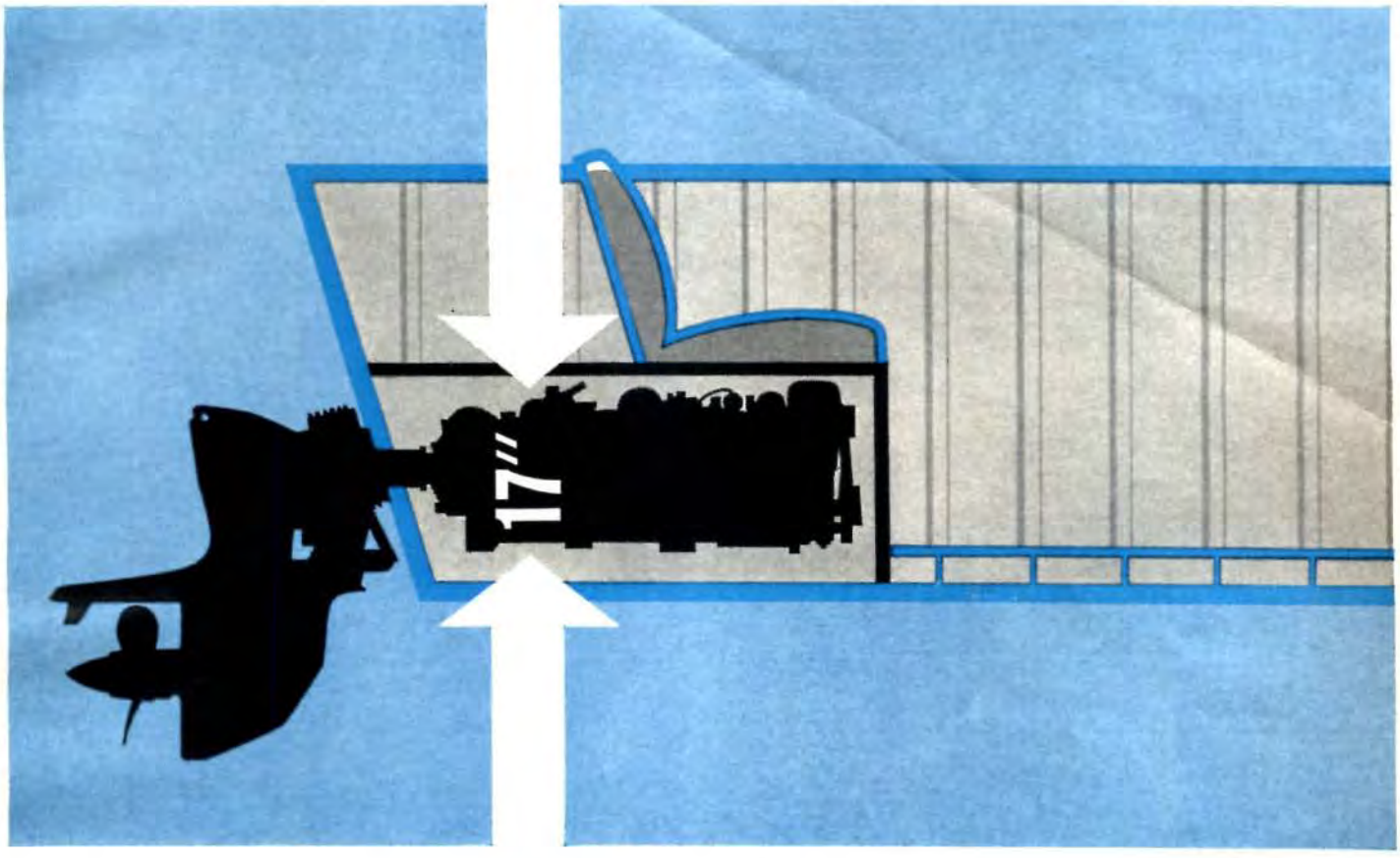
Seal crossed the finish line at Stamford at 9 AM Saturday morning to win corrected-time fleet honors by a substantial margin.

If the trend continues (it gets worse every year as concrete highways and housing developments replace green woods and fields on Long Island), New York area windjammers might as well give up Long Island Sound as a bad job. The only good sustained winds anymore come from cold fronts (NW) or low pressure storm systems (E or NE). The afternoon southerly sea breeze is apparently a thing of the past. Fortunately, there are some good races around, like the Corinthian's Nantucket Lightship Race, and the Indian Harbor Yacht Club's Around Long Island Race. The latter might be better if it didn't go around Long Island but ended in Gardner's Bay.

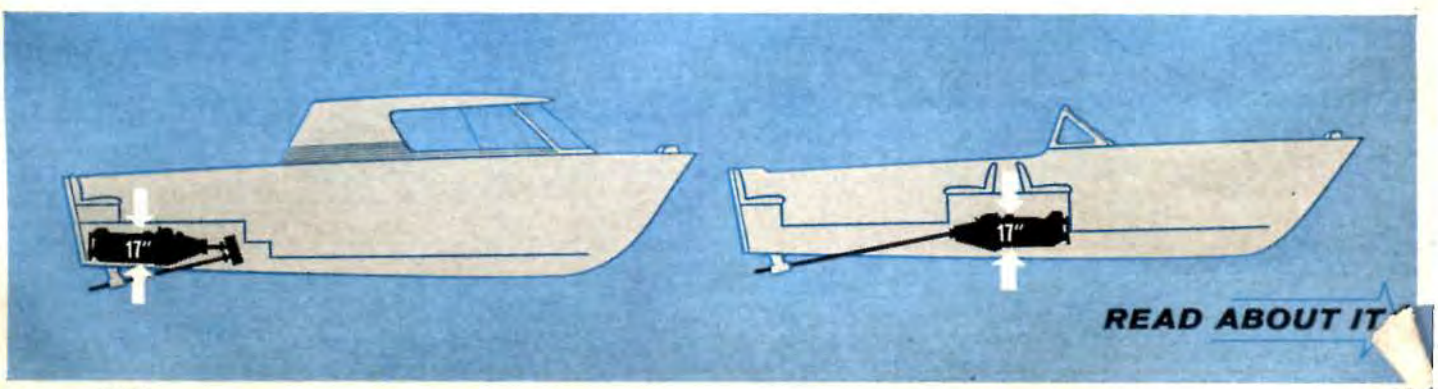
As for the numerous Stratford Shoal races, the Edlu Trophy Race, The Block Island Race, and the Vin-

[*continued on page 14*]

CHRYSLER ENGINEERS SCORE A BREAKTHROUGH!



An engine so low (only 17") it opens all-new design possibilities ... yet so powerful it equals two 100-horsepower outboards. It hides under the seat in an inboard-outdrive boat (has its own matching outdrive)! Permits flush decks in small cruisers, too!



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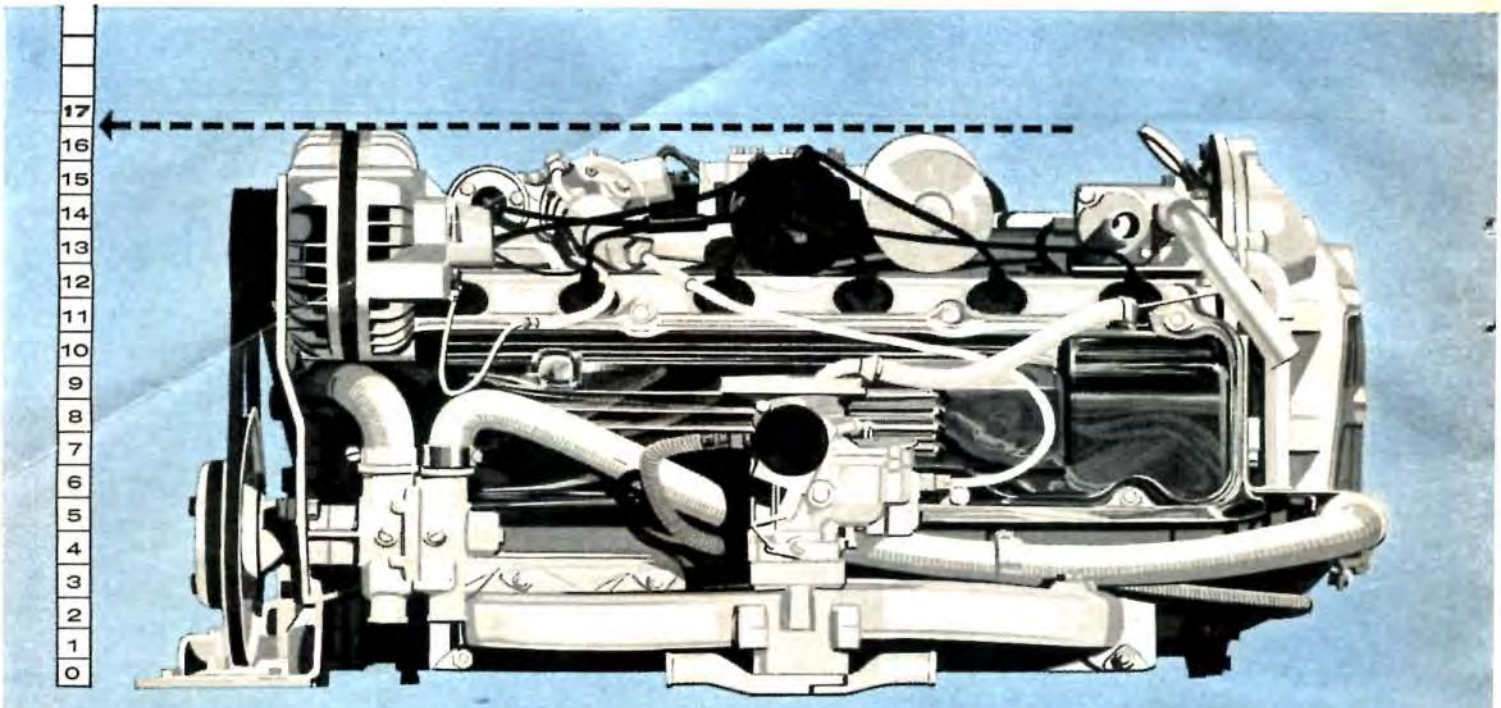
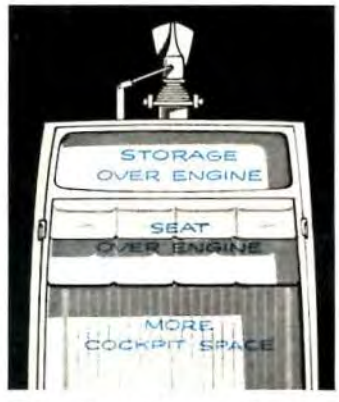
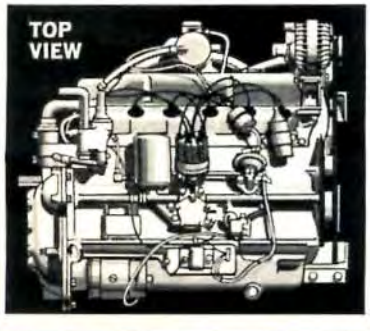


***Dual-Control**
Separate shift and throttle controls, plus "soft" hydraulic clutching action, permits rapid, clash-free shifting up to 2000 R.P.M.; makes docking easier and safer.

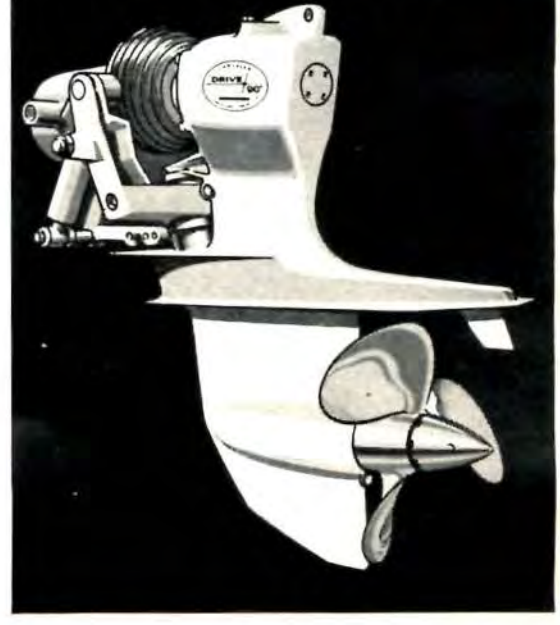


More "people room"
17-inch-high engine installs under standard-height seat and storage locker; eliminates space-wasting engine box.



Top servicing
Engine can be serviced from the top, making normal maintenance faster, more economical. Parts are available everywhere!

***NEW HYDRAULIC-SHIFT OUTDRIVE COMPLETES POWER PACKAGE**



Joint development of Chrysler and Dana Corporation engineers, this new unit features hydraulic clutch, optional hydraulic shift and hydraulic tilting. Two sizes match all the Chrysler marine engines; and you have a choice of 3 gear ratios.

MORE MANEUVERABLE BO..T!

AS EASY TO TRAILER AS AN OUTBOARD!

Chrysler "Space Saver Drive 90°". Remember the name, you're going to be hearing about it. A lot. It's the first inboard-outdrive package engineered as an integral unit—the first breakthrough in boating power *since* the V-8. And it makes possible a new kind of boating pleasure—this kind of pleasure . . .

MORE ROOM. Start with the brand-new Chrysler engine—the Space Saver 145. Measure it. Its height—only 17 inches top to bottom—allows boat manufacturers to install it *below* a standard-height, *full-width* transom seat. You get extra seating, extra storage behind the seat. You get rid of the space-wasting engine box. You get more "people room" in your cockpit.

MORE PERFORMANCE. The Space Saver is a 6-cylinder, 225-cubic-inch engine, delivering 145 horsepower. The matching outdrive, a combined achievement of Chrysler and Dana Corporation engineers, gives you your choice of three gear ratios (one of them 1:6 to 1!). The clutch is hydraulic. You can also have a hydraulic shift. And the dual controls allow rapid, clash-free shifting without cutting back engine speed. In both getaway and top speed, this exciting Drive 90° package stays right with *two* 100-horsepower outboards!

MORE MANEUVERABILITY. You get the sharper, surer turning that goes with a powered rudder. Your outdrive features optional hydraulic tilting to let you move under power in shallow waters. And dual controls make docking a breeze.

MORE SAFETY. The weight of the engine is where it should be—not hung on your transom. The engine itself is a 4-cycle power plant, a marine engine as dependable as your car. You and your family are safer in fair weather or foul, in any waters, under any boating conditions.

MORE ECONOMY. You use regular gas—not a costly, troublesome oil-gas mixture—and you use about *half* as much as with comparable outboard power. Your outdrive flips up automatically if it strikes an underwater object. Your engine can be serviced from the top, normal maintenance is quick and easy. And parts are as widespread as the Chrysler Corporation.

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Sound exciting? . . . it *is*. And *you* can command it. For technical data and a complete list of the boat makers who are featuring Drive 90° power packages, call your Chrysler Marine Engine distributor; or write us. *Chrysler Corporation, Marine Division, Marysville 1, Michigan.*

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150	Super Crown 150	1.1, 1.3, 1.6
190	Fury 190	1.1, 1.3, 1.6
195	Fury 195	1.1, 1.3, 1.6
210	Fury 210	1.1, 1.3, 1.6
250	Imperial 250	1.1 Only
260	Newport 260	1.1 Only
280	Golden Commando 280	1.1 Only

MARINE DIVISION **CHRYSLER CORPORATION**

Over the Transom

[*continued from page 10*]

yard Race, the way the weather's treated them lately, skippers and crews might just as well stay in the yacht club bar and shoot dice for the trophies. They'd stay drier—on the outside.

N.Y.Y.C. Annual Regatta

It was more of the same for the 109th Annual Regatta of the New York Yacht Club. Light airs plagued the fleet on the first day, so much so that only one boat in Division III and two boats in Division II finished. All but the leaders figured that the time limit would expire before the first boat could finish, but a nice breeze filled in allowing *Wolverine* to finish in Division III with minutes to spare. Division II finishers were Bob McCullough's new *Inverness* and Jacob Isbrantsen's *Wind Rose*.

The second day saw a "smoky sou'wester" blow the boats around a windward-leeward-reach course in good order with *Inverness* again finishing first for Division II honors for the series. *Windrose* finished third behind the second place. *Fun*, a new 45' Ted Hood design, owned by Bus Mosbacher and Lee Loomis. Division I was taken by William Moore's *Argyll*.

Wolverine, sailed by her builder, Gib Wolfe, and her designer, Alan Gurney, needed to beat only one boat to take Division III. She fell in a hole in the middle of the Sound (they're easy to find) and squeaked out an eleventh place which was sufficient to give her first for the series by a three point margin over Stuart Caldera's Concordia, *Baroda*.

Series winners for the two-day event were: *Argyll*, William Moore, Division I; *Inverness*, Division II; and *Wolverine*, Gilbert Wolfe, Division III.

Read Your Circular Carefully

While we're complaining of things we can't do anything about, we would like to make a suggestion to race committees. We know that they work carefully on the wording of instructions in race circulars, but sometimes the instructions add conditions that were not intended. For instance, in the Storm Trysail Club's circular for the Block Island Race was the proclamation that government marks could be disregarded except the Cows (bell #32 off Stamford) which was a mark of the course and must be left to starboard (channel side) approaching the finish. Several skippers considered it a mark of the course on the way out to Block Island and went out of their way to leave it on the channel side. Had the instructions said that the Cows was a mark of the course *after rounding Block Island*, there would have been no confusion.

Off-Soundings Spring Series

The Spring Off-Soundings series got out of Long Island Sound just in time. A nice, 10-knot northeaster got all classes through the Race and then into Gardner's Bay where a good 20-knot easterly gave the foredeck hands a work-out trimming spinnakers. Several of the B-2 boats broached carrying their spinnakers shy. All hands got things under control—some of their methods were a bit unorthodox, but effective.

Light, but steady SE winds prevailed on the second day until a good, solid southerly came in late in the afternoon after the smaller boats (C-1, C-2, and B-2) had finished.

Winners for the two-day series were determined by the best total corrected time for the combined races. They were: Class A-1, *Bellatrix*, Paul C. Nicholson, Jr.; A-2, *Tango*, E. H. McVay; B-1, *Protea*, Richard F. Sheehan; B-2, *Dionis*, D. C. Hayden; C-1, *Bagatelle*, David Cabot; C-2, *La Folie*, Paul R. Wood.—

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This is only one of many endorsements for Z-Spar marine finishes from leading boat builders. You will find Z-Spar brushes out easily, leaving no brush marks and will not yellow or discolor. Z-Spar enamels are famed for their high gloss, retaining their gloss after other finishes become dull and oxidized. When it's time to refinish, insist on Z-Spar.

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BULLETIN

Triple sweep for Uniflite's new fiberglass Annapolis 44's in rugged Swiftsure Race. Placed 1, 2 and 3 in Class "A," 3, 5 and 7 overall in a field of 67 boats out of Victoria, B. C. June 1-2.

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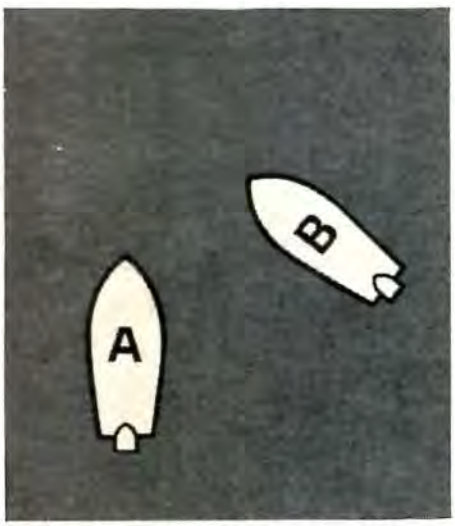
WHAT'S YOUR BOATING I.Q.?



Which outboard boat, A or B, has the right of way?

What does this symbol stand for?

Outboard boat B has the right of way. The life preserver is the symbol of Quaker State Duplex Outboard Oil and Quaker State Super Blend Outboard Oil—because these protect the life of your outboard best. Made specially for oil-in-gas lubrication from 100% pure Pennsylvania Grade Crude Oil, Quaker State Outboard Oils assure long, trouble-free performance, and top economy. You'll find that it pays to insist always on Quaker State—the best engine life preserver.

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POPULAR BOATING Answers your questions

HERE'S HOW

Nose in the Air

I have a 22′ Chris-Craft kit cruiser, powered with a 115 hp Gray engine. I need to get the stern to lift, in order to get better running trim. As it is, the boat plows along with its nose in the air. The original owner had 200 lbs. of cement in the bow, in sacks, to keep the bow down. Can you give me any information on "steps" that I can add to the hull?

D. A. Williamson
Sacramento, Calif.

Since the original owner of your craft placed sacks of cement in the bow, it is evident that the boat carries too much weight aft. Perhaps the engine itself was located too near the stern. If there is any way of shifting units forward in the boat—battery, galley equipment, fresh water tank, or head—to improve trim, you will not need to make any modification to the hull. If nothing can be moved, we recommend the installation of planing plates that attach to the transom (see the article "Bow Down and List Free" by Gordon Manning in the June issue).

Covering with Fiberglass

I am building a plywood boat, and want to cover it with fiberglass. Where can I get information that will take me by the hand and lead me, step by step, through the operation?

A. W. Runser, Maj., USAF
Olmsted AFB, Pa.

Most of the major producers of fiberglass and fiberglass products offer literature showing how the material is applied to plywood.

Actually, the job is very simple. Be sure to leave the surface of the plywood rough—go over it with coarse sandpaper—to insure good adhesion of the resin. Apply resin directly to the wood, and press the cloth down into it. Immediately apply more resin, and work it into the cloth. Be sure the cloth wets out thoroughly, and that there are no air bubbles between the cloth and the wood.

Burned-Out Clutches

My car, which has a standard transmission, is used to tow my 16′ Penn Yan boat with 25 hp engine. In three seasons, I have had to put in two new clutches. My average trip to and from the water totals 60 miles, and I make the run two or three times a week between May 30 and Labor Day. What can I do to improve clutch wear?

Charles F. Small
Waltham, Mass.

You should not be burning out clutches at the current rate. Check your driving habits carefully. If you "ride" the clutch (keep your foot on the pedal) when the car is moving and in gear, or if you keep the clutch pedal depressed while the car is stopped (while waiting for a traffic light to change, for example), or if you tend to "slip" the clutch too much when shifting into low gear or reverse, wear on the throwout bearing and clutch face will be excessive.

Grand Banks Dory

What type of boat does the enclosed photo show? If it is safe to operate in ocean waters, I would like to install an outboard motor and a cabin so I can use it in the San Francisco and Delta water area.

Elmer W. Johnson
Oakland, Calif.

Your snapshot is of a dory. To say that it is safe in ocean waters is an understatement. These craft were used by cod fishermen on the Grand Banks off Newfoundland—which is about as far offshore as you can get. Of course they were carried to the fishing grounds aboard the Nova Scotia and Gloucester fishing schooners; they weren't rowed out from shore. An outboard of about 5 hp will be sufficient for the boat.

Rather than build a shelter cabin, which will tend to make the boat top-heavy, we suggest you make a convertible top. This will give you protection from sun or rain, without destroying the stability of your craft.

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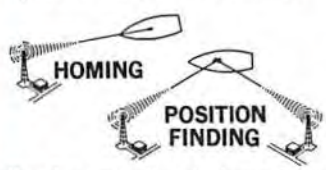

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3. **DF Level Control** adjust signal strength. Without this feature, a strong signal could overload set and prevent sharp, accurate null.
4. **180° left-right bearing scale** gives effect of 10" diameter compass rose even though set is only 2½" thick.
5. **Morse code,** a handy guide to help identify beacon signals.
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THE ABLE SEAMAN

By John L. Duffett

Surefire ETA's

Last month I explained how to make a vector diagram to plot the effect of current on a vessel. Now I'll outline the two other kinds of vectoring that the boatman should know: (a) where a given course must be traveled in a given time with allowance for the effects of current, and (b) where a given course must be run at a given speed and the skipper needs to know the proper heading to steer and the estimated time of arrival.

If you do predicted log racing, the "a" problem (Fig. 3) will be used often. If you do not engage in predicted log racing but concentrate on cruising, you will probably encounter problems of the "b" type most often.

In the case posed by the problem in Fig. 3, we are going to leave from bell buoy #12 (or point A). We need to know what heading to take, at what speed we must travel, and at what *time* we must take our departure in order to arrive at point B at 10:00 AM. To solve this problem, we first draw a line between two points. This line AB is the course we wish to make good; by measuring it against the compass rose, we find it is 180°. By measurement against the chart's scale with dividers, we find that the distance AB is 10 nautical miles. From the tide tables and current charts or visual estimations, we learn that the current sets 300° *true* with a drift of 3 knots. Next we lay off line BC bearing 300° from point C. Wait! Since we don't yet know where point C is, we cannot do this. What we do instead is to lay off the *reciprocal* bearing from point B, which is 300° − 180°, or 120°.

[*continued overleaf*]

Figure 3—vector for solving predicted log problems.

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Surefire ETA's

[*continued from preceding page*]

Take your dividers, lay off 3 nautical miles (drift) from the chart's scale, and make a dot. This is point C. Draw line BC. Now draw AC and measure it with the course protractor against the compass rose. This bearing is the heading you must steer to arrive at point B, *correcting for current*. Also measure line AC with the dividers against the chart's scale: this is the total distance you must sail to arrive at point B. If we are to make our rendezvous at our destination as scheduled, we must steer a course of 168° and adjust our engines for a speed-through-the-water of 12 knots. To arrive there at 10:00 AM, we must take our departure at 9:00 AM.

The "b" problem in vectoring is a little different but just as simple. In this problem (Fig. 4) we want to run to point B from A, or buoy #12; the course to make good is 270°. We decide to run it at our normal cruising speed of 7 knots. From the current tables or tide and current chart, we know that for this time of day, the current sets due north with a 4 knot drift. What we want to know is what course to steer and at what time we will arrive at point B.

First we draw line AB and measure the distance, which we find to be 13 nautical miles. We open our dividers and lay off line AC for a distance of 4 knots (drift) in the same direction as the current.

As we've already pointed out, we can never establish a point at an unknown location. What we *do* know, however, is our point of departure, so we lay off the current vector from that. The reason behind this is easier to understand if we consider that, were we to raise the anchor at point A with our engines shut down, in one hour's time the current would drift us north to point C. But we are not drifting; we are underway. Nevertheless, the current still acts upon us in the same way and to the same extent. To compensate for this, we have only to shift our starting position on the chart by the amount of the drift of the current. In Fig. 3 we corrected for current in much the same way that a hunter aims at a moving target—we "lead" our target. In the problem represented by Fig. 4, we are doing the same thing, but we are laying off the current vector at the *beginning* of our run instead of at its end.

After laying off vector AC, measure off, with a pair of dividers, against the chart's scale, the predetermined speed of 7 knots. Place one point of the dividers on C and swing a segment of an arc, intersecting course line AB. This

[*continued on page 22*]

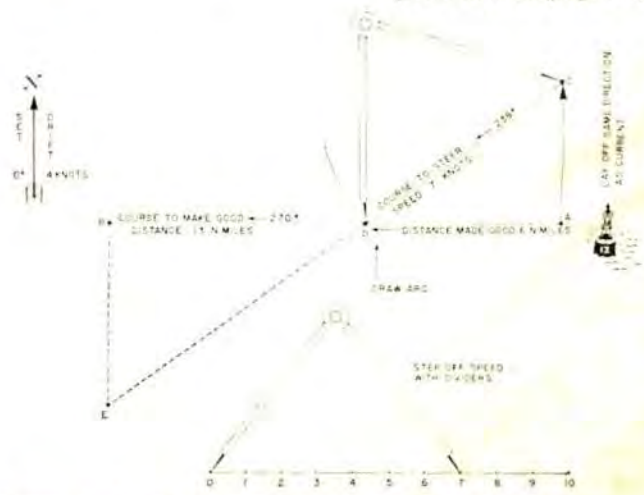

Figure 4—finding the proper heading with 90° set.

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HYPOID 90 GEAR OIL, long the most popular gear case lubricant for manual shift motors. S.A.E. 90 grade. For all "Type B" applications.

NO. 105 GREASE, for non-shift motors and wherever grease is specified for underwater units. Completely waterproof.

OUTBOARD ENGINES

2-C OUTBOARD MOTOR OIL, specially formulated to lubricate and protect the modern high horsepower outboard engines. Mixes instantly . . . burns completely . . . reduces carbon build-up on plugs . . . assures quick starts and minimizes stalling. No settling out . . . no gummy residue.

GREASE FITTINGS

MARINE-LUBE "A", medium density, high film strength, low cold test, high-melting point. Resists both fresh and salt water. Has no equal for pressure fittings, throttle linkage, finger gears, trailer wheel bearings, winch gears, deck machinery, clutch and shaft bearings, ground tackle, turnbuckles, generators, pumps —everything that needs grease.

INBOARD-OUTBOARD (Stern Drives)

LUBRIPLATE APG 80 AND HYPOID 90, for underwater gear cases. As described above.

LUBRIPLATE 2-C OUTBOARD MOTOR OIL, for both 2-cycle and 4-cycle motors. Excellent for pre-mixing for 2-cycle engines or injection mixing in 4-cycle engines.

LUBRIPLATE MARINE-LUBE "A", for Inboard-Outboard Pressure Fittings.

INBOARD ENGINES

H.D.S. MOTOR OIL WITH F.Z., contains F.Z. (Fluid Zinc)—the very finest anti-wear motor oil additive yet developed. Meets the 6000 mile oil change requirements of newer automobile engines which greatly extends the length of times between oil changes when used in marine engines. Available in all S.A.E. numbers.

NON-DETERGENT MOTOR OIL, for the break-in period of automobile and inboard marine engines.

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MARINE LUBRICANTS

LUBRIPLATE DIVISION—Fiske Brothers Refining Co. · Newark 5, N. J. · Toledo 5, Ohio

Surefire ETA's

[continued from page 20]

point. D. represents the position reached after one hour's steaming. Measure the direction of line CD with the course protractor. This is the course that we must steer to arrive at destination B. allowing for the effects of current. Next we open our dividers and measure line AD. In the Fig. 1 problem, this is 6 nautical miles. So our actual speed over-the-bottom is 6 knots, even though we have been steaming through the water at 7.

Once we have arrived at point D. after an hour's run, it is not necessary to lay off another current vector for the next hour. A careful look at the diagram shows that the 238° course is correct throughout the whole run to point B. To show graphically that this is true, we have only to extend line CD to E, as we have done with dotted line CDE. If you measure this with the course protractor, you will see that the heading is still 238°. The distance represented by line BE is the amount which we would have to allow for current on a run from D to B. By continuing on our 238° course, assuming that current conditions remain the same, we are automatically making the correct allowances.

In order to find our estimated time of arrival at B, we use the old formula: Distance to make good ÷ Speed made good = Time required. In the Fig. 4 problem, the distance is 13 miles and the speed made good is 6 knots. Therefore, the run will take 2 hours and 10 minutes. If we left at 9:00 AM, our arrival time will be 11:10 AM.

Now let's take another problem of the "b" type, where the current is not at right angles to our desired course. In Fig. 5 we leave bell buoy #12, or point A, and we wish to reach point B. The current sets north 0° with a 4-knot drift. First we lay off line AB, which we find to be 305°, for a length equal to 13 nautical miles. Next we lay off the current vector AC in the same direction as the current. Our predetermined speed for this run is 6 knots. So, we open our dividers to 6 knots from the chart's scale, and sweep in an arc that intersects course line AB. We now draw line CD which, by measurement, we find to be 270°. This is the course we must steer to arrive at B, allowing for current. To find what our actual speed over the bottom is, we measure line AD (the result of one hour's run at 6 knots steering 270°) and find that we have actually covered 7 miles. We have gained an assist from the current of 1 knot. To cover the 13 miles, assuming the current did not change, would require 1 hour and 50 minutes.

Once you've mastered vectoring, the effects of tide and current will hold no mystery for you, and you will get a great deal of pleasure out of predicting your ETA (and hitting your destination) right on the button, no matter what the current is doing.—

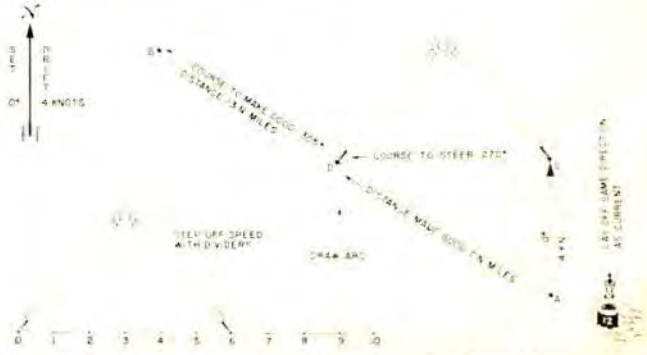

Figure 5—a more complicated version of "b" problem.

New direction finder by Raytheon

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Worry-free accuracy and speed in establishing navigational "fixes" or plotting are yours with a Raytheon Direction Finder. The new Model 358 Automatic Direction Finder offers complete frequency coverage on Beacon, Broadcast, and Marine bands; built-in automatic sensing and quick and accurate automatic visual directional information. Lightweight, rustproof aluminum construction insures long life, plus good looks. Its compact design permits easy installation on any vessel. Prices start at $1,295. Raytheon Company, Marine Products, 213 East Grand Avenue, South San Francisco, California.

RAYTHEON

Ranger II—Full transistorized circuitry for reliability and extra-long battery life in a portable, yet powerful marine receiver. Clear, distortion-free 3-band pickup—Beacon, Marine, Broadcast. Unusually high gain and selectivity. $195.

Model 358—(see above)—installation with Fathometer® Depth Sounder and Raytheon radio telephone. Go Raytheon "all the way" for superior performance, easier maintenance, better looking, better engineered installations.

THE 6 BIG SECRETS OF BERTRAM PERFORMANCE

1 BANKS IN PERFECT BALANCE. In high speed *turns, a Bertram* banks tightly in perfect equilibrium so passengers are not thrown off balance. Her outside chine rises clear where it won't catch or trip. Longitudinal steps stop sideslips. At low speeds, she responds instantly. Chines are above water, won't dig in. You can spin her on a dime.

2 GREATER HULL EFFICIENCY: Do you waste fuel dragging a big wake? The size of a boat's wake indicates efficiency or inefficiency of the hull. Compare the high-thrown spray and "rooster tail" of conventional type hulls with the flat wake of a Bertram —dramatic evidence that in the Bertram, drag is substantially reduced.

3 LESS ROLL: In a beam sea, a Bertram shows unusual stability. Her sections develop a strong righting action, while her longitudinal underwater steps act as bilge keels, thus a Bertram is less affected by waves.

EVERY BERTRAM COMPLETELY SHAKEN DOWN AND WATER-TESTED BOTH AT PLANT AND BY DEALER BEFORE DELIVERY TO OWNER

Study the remarkable pictures above. They are unretouched photos, fuzzy because of extreme enlargement from tiny frames in a movie, but showing dramatically the performance superiority of the unique Bertram hull in action.

Performance factors have been progressively improved, as Bertram Research and Development brought new methods and design advancements to light. Until he experiences his first Bertram ride, it is difficult for the owner of an ordinary boat to make a comparison — so outstanding are the seakindly behavior and performance characteristics of the revolutionary Bertram. Here indeed is the boat the experts are buying, acclaiming, and recommending to boat-enthusiast friends.

But performance alone is by no means the sole distinction of the Bertram. Bertram *quality* — the persistent striving for the last word in craftsmanship, workmanship, and finish — has become as legendary, in the three short years of Bertram's rise, as the revolutionary Hunt-designed hull. And the comfort, the luxury, the low-maintenance economy of Bertram quietly beautiful interiors and decor are pride-of-ownership factors which brilliantly distinguish the entire Bertram line.

Take, for example, Bertram quality. From the days when a handful of key engineers and craftsmen comprised the Bertram staff, to the recent opening of the modern new Bertram plant at Miami, no smallest detail or fitting escaped constant scrutiny and progressive improvement. As each advancement was refined, approved and tested, it went without fanfare into current models — no holding back until "next year." Again and again, Bertram owners gained the benefit of unsung advancement which, in other boats, might have been considered cause for trade and public announcement.

It is this painstakingly thorough Bertram tradition — this insistence that each Bertram is an *individual boat* rather than a production-line unit — which places Bertram quality in a class by itself. Today, every Bertram regardless of size or model is launched, rigorously water-tested before delivery to its owner. Over 200 items are specifically checked. All mechanical, electric, and electronic equipment is operated and adjusted for perfect running condition. Each component is inspected *five times or more* during manufacture, and undergoes final check during water-testing. Engines are aligned, started, and tuned for top efficiency and fuel consumption economy. Operating performance is thoroughly tested in trial runs over a measured speed course. Engine RPM's, and other results, are noted on an individual certified inspection report, which accompanies each boat to its owner.

Some of the quality touches you will find in Bertrams are molded fiberglass fuel tanks with no welds, no rivets, no solder joints to leak, impervious to corrosion, rust, or shale. All metal parts are bonded to a common ground, to prevent electrolysis and to ground static electricity. You will find large oversize fuel filler pipes and vents to reduce back-pressure and permit rapid filling. You will find circuit-breakers in place of old-fashioned fuses — sound-insulated engine compartments — and a host of other refinements and features that assure to the Bertram owner highest possible quality. And, of course, you will find the *Bertram High-Impact Fiberglass* hull, acknowledged finest in the industry — precision-molded in as many as 24 separate laminations into one solid super-strength whole to resist to an almost unbelievable degree the inevitable shocks, knocks and mishaps that can so easily damage and disable other types of construction. In the unlikely event of a puncture or hole, repairs are made at a fraction of the cost of repairing wood or metal. Easily cleaned formica and vinyl are used exclusively for Bertram interiors — one reason why Bertram decor is so appealing to owners' wives. Sandpaper, varnish, and paint are unknown to the Bertram owner. He threw them away the day his Bertram was delivered. New hull colors, impregnated right into the *diamond smooth* gel coat, give the Bertram long-lasting beauty. After years of use, your Bertram will still look new. You get the true economy of quality, the savings of much lower maintenance while you own the boat, and the higher value when you sell it, thanks to Bertram's advanced design and quality construction.

This then is the Bertram — *The Boat the Experts Are Buying.* Little wonder that Bertram performance and quality not only have earned the acclaim of experts, professional skippers, serious amateur yachtsmen, and average family boatmen, but have attracted the "cream of the crop" of boat dealers here and abroad.

The Boat the Experts Are Buying— Greatest Design Breakthrough of Our Time. Study These Pictures:

4 SOFTER RIDE: With no flat planing surface aft to jolt and jar, a Bertram rides so much more easily through seas that knowledgeable boatmen taking their first Bertram demonstration are amazed. When weather is a limiting factor, your Bertram will cruise comfortably at 40% higher speed than a conventional boat of comparable size.

5 DRIER RIDE: The unique Bertram longitudinal steps throw water out low and flat where it will not blow back aboard. Thus, the cockpit of a Bertram stays measurably drier, giving a more pleasurable, more comfortable ride for family and friends.

6 STEERS EASILY IN FOLLOWING SEA: When a wave catches under the broad flat after section of a conventional hull, the boat pitches forward where her sharp forefoot acts as a forward rudder to make her yaw, even broach in steep seas. The symmetrically balanced Bertram hull has neither flat sections aft nor sharp forefoot. Steering in a following sea at low or high speeds, even running bad inlets (see above) is safely and easily accomplished.

MAGNIFICENT NEW BERTRAM 38 NOW IN FULL PRODUCTION

BERTRAM 38 RAISES FISH. Fishermen know that some boats raise fish better than others. The Bertram 38, on her first fishing trip, more than pleased her crew in this respect. During five days fishing Bimini waters three blue marlins from 107½ to 293 pounds, one 45-lb. white marlin, one 65-pound sail, 22 large dolphin, and ten large barracuda were boated. Suitability of the Bertram 38 for offshore big-game fishing was judged outstanding.

TYPICAL OF ALL BERTRAM MODELS is the luxury decor of the magnificent Bertram 38 — first production boat her size embodying totally new design, plus exceptional new standards of comfort, appearance, low maintenance, seakeeping qualities, and brilliant speed. The 14'6" beam gives the comfort and stability of a larger boat. Owner's stateroom has upper and lower bunks, private head with vanity and shower, and ample wardrobe space. Spacious, airy deckhouse, with color-coordinated carpeting and upholstery, is perfect for dining and shipboard entertaining and relaxation. *Power:* Twin Chryslers 325 HP each, or twin 181 HP GM or twin Cummins 300 HP diesels. Sleeps six. Flying Bridge controls are standard equipment. Control stations in deckhouse or cockpit are optional extras.

New Bertram 31 Flying Bridge Cruiser has sportfisherman features. Available either with open deckhouse or enclosed deckhouse and private head.

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By Jim Martenhoff

What the Tide Tables Don't Tell You

Why is it always high tide exactly at noon and at midnight in Tahiti? Conventional theories about the movement of tidal waters don't explain this. Here is a sound concept that does

The tides have been tamed since the time of legend, a thousand years ago, when King Canute lost his famous argument and got his feet wet.

Today the tides are bound in the black-and-white chains of tables, printed in handy booklets. The Tide Tables, published by the U.S. Coast and Geodetic Survey, supply any skipper with fairly accurate knowledge of tidal predictions at any of 5,000 ports along the shorelines of the world. We say "fairly accurate" with reason: The tides may have been tamed, but they are about as predictable as a half-grown tiger cub on a leash. Like the tiger, you can't say for sure the tides won't turn on you.

That's because tides are affected by many factors besides the simple, widely known influences of the moon and sun. A change in barometric pressure of one inch can permit the sea to rise one foot.

There are also wind tides; masses of water moving into a shallow bay ahead of an urging relentless wind. Maybe the tables for the area say it's supposed to be low tide, but Mother Nature can't read tables, and rolls up enough water so that a puzzled observer *thinks* somebody goofed.

So tidal knowledge isn't linked to the tables alone; it consists of understanding the tides: what generates and controls them, and how and why they vary.

As everyone learned in school, the moon is the primary creator of tidal flow. But the oversimplification of school-day learning isn't adequate for understanding. Teacher says, getting it out of a textbook, that the oceans of the globe swell up on the side of the earth nearest the moon, thin out on the sides of the earth part way around the globe, swell up again on the "bottom" part of the world. Everyone has seen the diagram illustrating this.

Many a schoolboy (and maybe many adults) may have wondered how the moon can "draw" water on the near side of the earth, yet "push" it away on the opposite side of the world. The two points are, after all, in line.

Possibly the same point puzzled scientists. Anyway, there were vexing inconsistencies in global tidal behavior that didn't mesh with the school-text diagrams. Something was wrong, somewhere.

A U.S. Geodetic and Coast Survey scientist, Dr. R.A. Harris, patiently explored masses of accumulated data, and came up, years ago, with the so-called Harris "standing-wave" theory of tidal flow. Most authorities accept the Harris theory.

The theory that Dr. Harris holds is that tides are formed, not on a global basis, but by the moon-caused oscillation of vast water masses in ocean basins. Such regional tides can flow almost independently of each other.

As an example, the tide in the northeastern portion of the Gulf of Mexico is a type termed a "tropic tide." There is only one high and one low tide each day. It is a diurnal tide, to use another name for it. Yet on Florida's opposite coast, and along almost the entire Atlantic Seaboard, tides are semidiurnal: there are two highs and two lows each day. Throughout most of the West Indies, tides are referred to as "mixed." When the moon is near the equator, tides are semidiurnal, with two highs and lows daily; at the time of maximum declination tides are "tropic," with a single high and low daily.

Ranges also vary considerably. There is almost no tidal flow in the eastern half of Florida Bay. But look at the east coast of the United States on a map: each major indentation in the coast line has a higher range than parts of the coast extending further out to sea. Tide ranges are about three feet along lower Florida; eight feet in the area where Georgia recedes inward; run around five feet where the New York-New Jersey coast inches inward, and gain fantastic ranges above New England, where a basin is formed ending in the Bay of Fundy. Tidal ranges at the Bay of Fundy approach 50 feet.

An understanding of the ocean basin, standing-wave tidal theory is best gained by half-filling a tray with water. Lift one end of the tray, then lower it quickly (but don't drop it!).

The motion sets the "ocean" in the tray to oscillating; moving back and forth. There is a regular, rhythmic, "high tide" at each end, alternating with a "low tide."

But watch the center closely. Along a line crossing the center of the tray, *there is no rise or fall of the water.*

Dr. Harris called this the "nodal line." It explained perplexing tidal behavior in various parts of the globe; patterns which no other theory could explain. As an example, Tahiti certainly lies in an ocean basin. There should, under the schoolbook simplification of "swelling" seas (dragged upward by the moon's gravitational pull) certainly be a traditional tide at Tahiti.

But there isn't.

Because the normal tides are caused by the moon, and because the moon rises about 50 minutes later each day, normal tides occur with the same 50-minute delay. Each high tide, every day, is not quite one hour later than the high tide the day before.

That's a normal, semidiurnal tide. Yet in Tahiti, the two high tides occur *exactly* at noon and midnight; the two low tides *exactly* at dawn and dusk. There's no 50-minute delay, and there never has been.

Only the Harris standing-wave theory fits this puzzling situation. Says the Harris theory: Tahiti is in a nodal line. There is no moon-caused movement of the water.

Only the far less force of the sun affects Tahitian waters. Hence a very small high tide occurs when the sun is directly overhead (or directly beneath the earth) and low water occurs when the sun is at a 90-degree angle—as it is at dawn and dusk.

As already explained, a drop of one inch in barometric pressure permits the sea to "swell" up one foot. A fall of one inch is not unusual in times of severe storms accompanying vast atmospheric lows. In hurricanes, the drop can be two, three, or more inches—meaning the level of the sea can rise several feet.

Then there is the wind. A brawling norther, blowing a gale for days, can roll up many more feet of water above the average sea level. The combination of lowered barometric pressure and high winds creates a "storm surge."

It was just exactly such a storm surge that swept into the North Sea and English Channel in the last decade. Coupled with high tides, it rolled a tumbling wall of water over the costal areas. The Lowlands suffered their worst flood since the Middle Ages.

There are other complications in the tide. When the sun and moon are in line, as they are at the times of both new and full moon, tidal ranges are greater. High tides are higher than normal, low tides lower. Such tides are "spring" tides. It has nothing to do with the season of the year. Spring tides do not occur only in the spring, but at all times of the year—whenever there is a new moon or a full moon.

When sun and moon are not in line, tidal ranges are smaller. These tides are called "neap" tides. Ranges are also greater when the moon is in perigee, or closest to the earth; and lesser at the apogee, when the moon is farther away. And when the moon is near maximum declination—furthest from the equator—the range between one set of the day's high and low tides becomes larger, while the range of the other becomes smaller. In the West Indies, this leads to the condition already explained: at maximum declination, and for a few days on each side, the normally semidiurnal tides become "tropic" tides, with only one high and one low daily.

All of this, incidentally, explains why the Gulf Stream—that famous "River in the Sea"—proves so puzzling to navigators in ocean yacht races. The current's flow is affected by tides, by wind, and by atmospheric changes of pressure. In the area off Southern Florida, on the natural track taken by thousands of yachtsmen making the run to the Bahamas, the speed

[*continued on page 28*]

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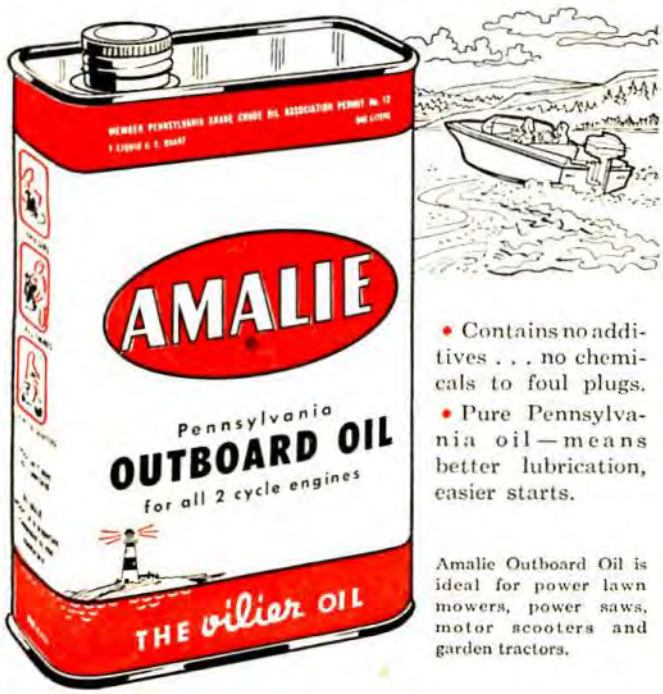

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What the Tide Tables Don't Tell You

[*continued from preceding page*]

—drift—of the current can vary as much as 2.5 knots in a day. Tide is the biggest factor. Not too many navigators take advantage of the knowledge, but the Navy Hydrographic Office has determined that current flow is at its maximum nine hours before local transit of the moon. With a falling barometer and southerly wind, it is liable to pick up more speed to boot.

Tides are predicted in booklets published by the U.S. Coast and Geodetic Survey, Washington. The booklets most American skippers would find useful, depending on where they live, are "East Coast, North and South America," and "West Coast, North and South America." The first includes Greenland; the second takes in Hawaii.

Two others are also published. Between all four, some 5,000 of the globe's ports are covered.

They are produced by the Survey, which first charts the tides in a port for a year or more by direct observation. Data is correlated with astronomical phenomena, and the whole mess of figures fed to a number-chewing computer. The computer is hooked to an electric typewriter. It's all automated; when someone pushes the button (men are useful for some things) the computer predicts the tides for a year in advance and the electric typewriter chatters away, automatically typing out long columns of figures.

Human hands strip the figures into pages, with titles and footnotes, and the whole thing is reproduced by photo offset.

The tables actually cover certain base stations—the major ports, and river mouths. Scores of other stations along the coast are listed in the back of the book, in a section titled "Tidal Differences, and Other Constants."

For the tides at major stations, you look up the date, read the tides directly. For tides at lesser stations, you first look up the station in the back, and find a correction factor—a set of figures applying to the tide at a nearby base.

Bluefish Bay, to name a fictional example, is too small to be listed in the front of the tide tables. But it is in the back of the book, where you see that it is related, say, to Boston. You simply add 55 minutes to Boston's high tide, and 35 minutes to Boston's low tide, for the time of corresponding tides at our mythical Bluefish Bay.

But as much as Uncle Sam tries to aid all boatmen with accurate, comprehensive tables, he can't touch on every inlet, every cove, every bay or body of water.

The observant skipper can make up his own tide tables, if it is important enough. A simple "tide guide" can be worked out for any channel, pass or shoal.

Simply note the stage of the water *and the exact phase of the moon*. If it is low water at Rudderbend Shoals at dawn two days past the new moon, then it will always be low water in the same place two days past either *new or full moons*, at the same time.

Suppose you note that it is high tide at Oxfoot Bar at noon when the moon is in the first quarter. Then it will *always* be high tide at Oxfoot Bar at noon on either the first or the last quarter.

The quarters go together; the new and full moons are also linked.

Keep a small notebook, or enter these observations in your log, and you begin to pile up a wealth of personal tidal data that could prove invaluable. It will be approximate, of course; but as we have already pointed out, wind and weather can upset even Uncle Sam's tidal predictions.

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PEARSON YACHTS

GRUMMAN ALLIED INDUSTRIES, INC.

What the Tide Tables Don't Tell You

[*continued from page 28*]

so your log notes are useful and will be accurate enough for your purpose.

The best way to gain an understanding of how tides are so closely linked to the moon is to study a set of tide tables. Pick out the dates of the new moon, for a full year in advance; check the tides on those same dates, and you'll find that they will vary (usually) less than one hour throughout the year.

It's the same with the other phases of the moon. Tides will occur at approximately the same time, on every moon phase, throughout the year. Full moon tides will be about the same as new moon tides; the tides on the quarters will also stay about the same—all year long.

We don't mean to knock the tide tables. They are potentially invaluable to boatmen. They can tell the sailor when to careen his craft for bottom inspection and painting, and suggest to the cruising enthusiast the safest time to negotiate a ticklishly narrow and relatively shallow channel leading to a strange port of call. The tide tables can tell the skipper of a boat that's hard aground whether he'll have to call for assistance or if he stands a chance of floating off. They also inform the fisherman when certain species of fish will be heading to or from the flats. Reference to the tables can tell a knowing boatman that he should avoid tying up with spring lines for an overnight stay at a pier in a harbor where the tide range is extreme.

The skipper interested in really learning something of the tides can make himself an expert, and gain a reputation as a local authority. All it takes is a little study.— ⚓

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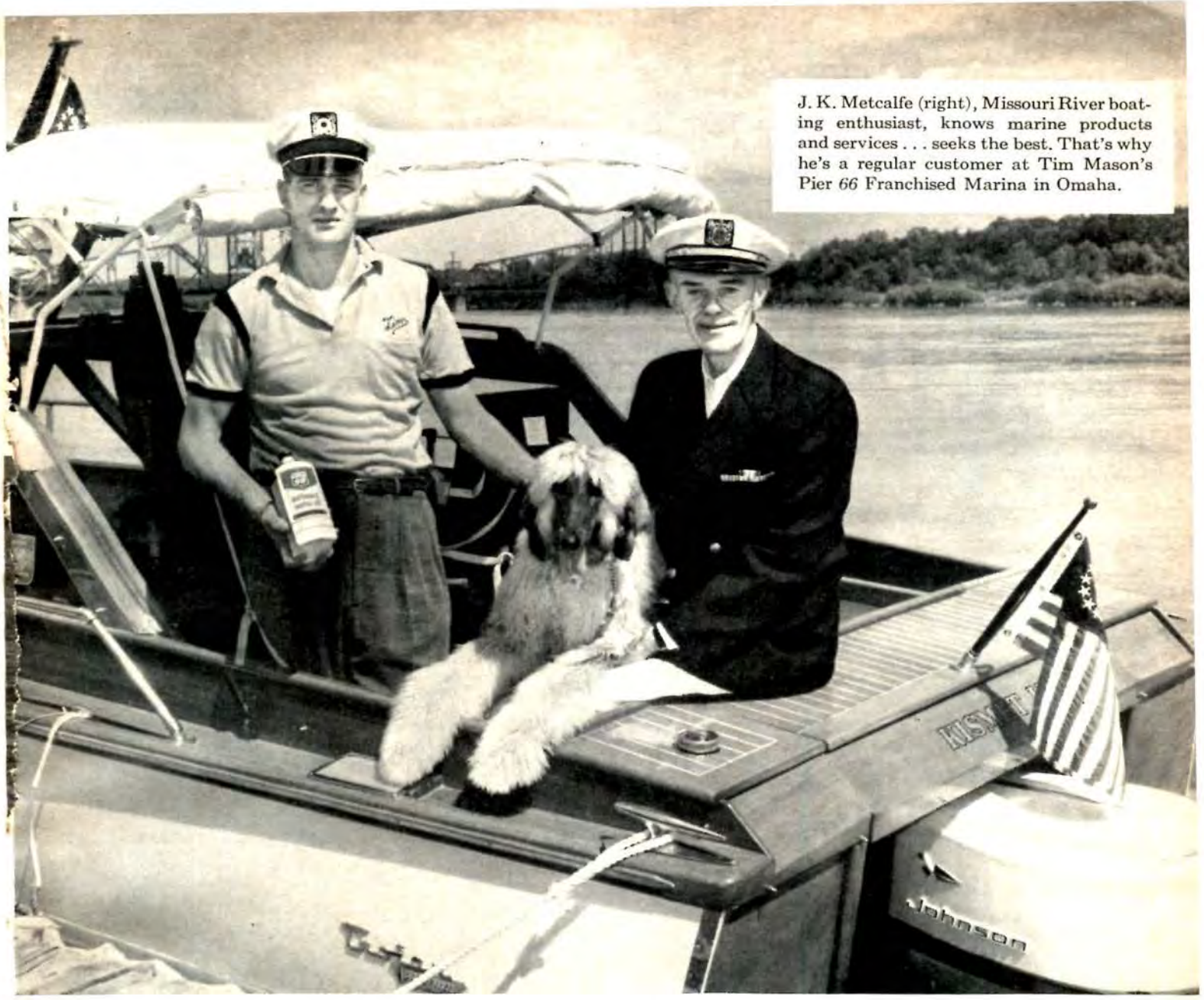

J. K. Metcalfe (right), Missouri River boating enthusiast, knows marine products and services . . . seeks the best. That's why he's a regular customer at Tim Mason's Pier *66* Franchised Marina in Omaha.

Why J. K. Metcalfe prefers Pier *66* Franchised Marinas

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THE BOATMAN'S SHOPWINDOW

Radio direction finder measures 8″ x 5″ x 2½″, weighs 2½ lbs. Powered by 4 flashlight batteries, the 8 transistor unit may be used as a pelorus. $99.95 includes earphones. Bendix-Marine, 8211 Lankershim Blvd., North Hollywood, Calif.

Winchcleats for tightening and securing halyards on boats 25′ to 35′ l.o.a. produce to 250 lbs. of tension. Made of brass and stainless steel, they measure 7″ long and 2″ wide. $17.50. The Crow's Nest, 16 East 40th St., New York 16, New York.

Home labelmaker prints raised letters on plastic, adhesive-backed, colored tape. It's useful aboard for identifying electrical switches, docklines, running rigging. $9.95, cloth printer kit, $5.95. Dymo Industries, Box 1030, Berkeley, California.

Watertight outlet provides 3-wire, 30 amp. service. Chrome-plated bronze inlet mounts flush, has a screw-on cover and neoprene gasket. Automatically corrects polarity when wired correctly, $14.53. Harvey Hubbell, Inc. Bridgeport 2, Conn.

Engine generator weighs 22 lbs., uses 1.8 hp 2 cycle engine and 7 pole magnet generator to produce 1,000 watts D.C. 12–240 volt models are $199.50. Dual-volt models, $209.50. Titan Industries, 10889 Wilshire Blvd., Los Angeles, Calif.

Flusher/Test unit for outboards consists of an aluminum or brass plate and threaded hose connection. It needs only a garden hose for water supply. Priced from $1.25. Crozier Marine, 684 North Prairie Ave., Hawthorne, California.

Detection device warns of fire, low oil pressure, engine overheating and leaks by activating a bell. Automatic, electronic, 3 lb. unit operates on dry and ship batteries. Price, $59.50. Aqualarm, 1530 S. Prairie Avenue, Hawthorne, California.

Galley stove uses solid fuel to avoid spillage. 2 oz. can will burn as long as four hours, and heat intensity is controllable. Available in one or two burner units, aluminum or stainless steel. From $32.50. Merriam Mfg. Co., Durham, Conn.

Marine prints, representing more than 75 painters from the 18th century to the present, are suitable for framing. Pictured is Dawson's "Eight Bells," $32. Preston's Marine Prints, 201 Main St., Greenport, N.Y.

Beam gun has 40,000 candle power. 3 lb. gun is encased in a watertight, shock proof polypropylene case that will float beam up. $17.95. Triton Marine Products Co., 12 Manhasset Isle, Port Washington, N.Y.

For additional information, write directly to the company.

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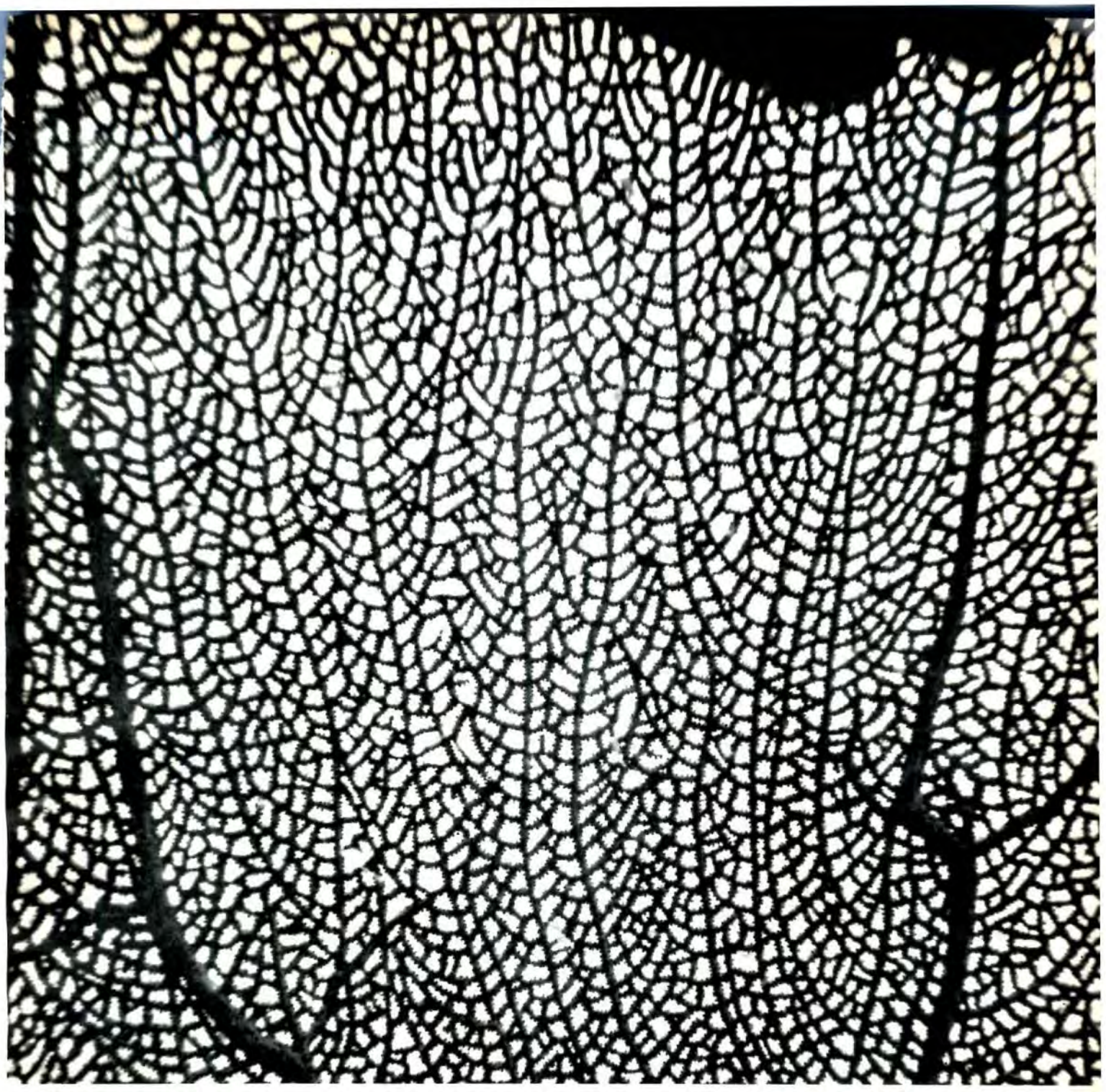

By Judy Joye

New Beat for Boatmen: Underwater National Parks

On the next 10 pages: sightseeing along spectacular coral reefs

Underwater National Parks off the Florida Keys, in the Bahamas and Virgin Islands provide a spectacular circus in a coral amphitheatre, and you don't have to be a scuba expert to enjoy the show ten feet below the surface

You wouldn't camp out overnight in one of these parks, and you won't find any tame bears to feed, but you can see breath-taking scenery and the most fabulous animal acts in the world along these coral reef trails. Like their dry land counterparts, these parks have clearly designated routes to follow. Underwater markers identify the species of corals, fishes and animals, and anyone with average swimming ability can enjoy the spectacle. Most of the trails are in 10 to 15 feet of water. Visibility in all the parks ranges between one and two hundred feet. The water is that clear. Non-diving members of a family can explore the trails by holding an ordinary face mask or glass-bottomed bucket over the side of a small boat.

Since many visitors bring their own boats, each park maintains fully equipped marinas, many with restaurants and land accommodations nearby. Most of the reefs are in shallow water, and in some areas a dinghy or shallow-draft boat is essential. In all three parks diving equipment, guides, and instructors can be hired, and where desired, shallow-draft boats of all sizes can be rented or chartered for groups.

There are relatively few hazards within the park area, but one should be careful not to touch sea anemones, stinging coral, or spiny urchins. Divers are advised to wear heavy gardening gloves, and to avoid handling unidentified objects, or reaching into crevices where moray eels may live.

Author Judy Joye collected this portfolio of pictures that show some things you'll see in underwater parks.

Although National parks are commonplace on land, the increased popularity of skin and scuba diving has created a need for this type of conservation underwater. Back in 1953, underwater naturalists observed that divers, swimmers, and souvenir hunters were collecting corals and shells at such a rapid pace that within a few years the natural formation of reefs that took thousands of years to build would be destroyed. To preserve the wildlife and scenic beauty of these reefs, national land grants were established in Florida, the Virgin Islands, and the Bahamas. At the present time, the Island of Bermuda, as well as other areas of the world, are contemplating similar underwater projects.

Underwater parks are dedicated to the preservation of marine life and scenic beauty, and although spearfishing and souvenir hunting are allowed outside the coral preserve, no one is permitted to kill or remove any living thing from the park area. (Only shells can be collected, providing the animal no longer occupies the shell.) Most of the fishes that live in the park are quite tame, and with a little patience many will swim up and take food out of your hand. The reefs are well populated with undersea life, and one need not venture far to find porpoises, giant sea turtles, colorful parrot, angel, and clown fishes, sea fans, giant groupers, odd-shaped corals, exotic sea anemones, and even sponges that squirt water.

The Virgin Islands have two underwater parks—one is Trunk Bay, St. John, and the other along the famous Buck Island Reef near St. Croix. Both parks range from 12 to 15 feet maximum depth, and have trails that extend in quarter mile circles. Concrete and plastic signs identify sea anemones, stinging coral, and other dangerous animals, as well as colorful reef fishes, corals, and sponges.

The nearest accommodations to the St. John (Trunk Bay) National Park are in St. Thomas, about four miles to the westward. Here at Yacht Haven boatmen will find full facilities, 30 berths and available moorings. Overnight berths, but no permanent dockage, are obtainable at the town dock.

For boatmen who fly to the islands, power and sailboats up to 80′ in length can be chartered from the St. Thomas Charter Boat Association and from Col. Frew Henry, Blue Water Cruises, both in St. Thomas, or from The Boathouse, Inc., in Frenchtown, which also rents dinghies and small boats. If you are using your own boat, diving equipment, guides, instructors and dinghies can be obtained from Capt. J. Heyman on the yacht *Good Hope* or John Hamber at Sapphire Beach. Hamber will also

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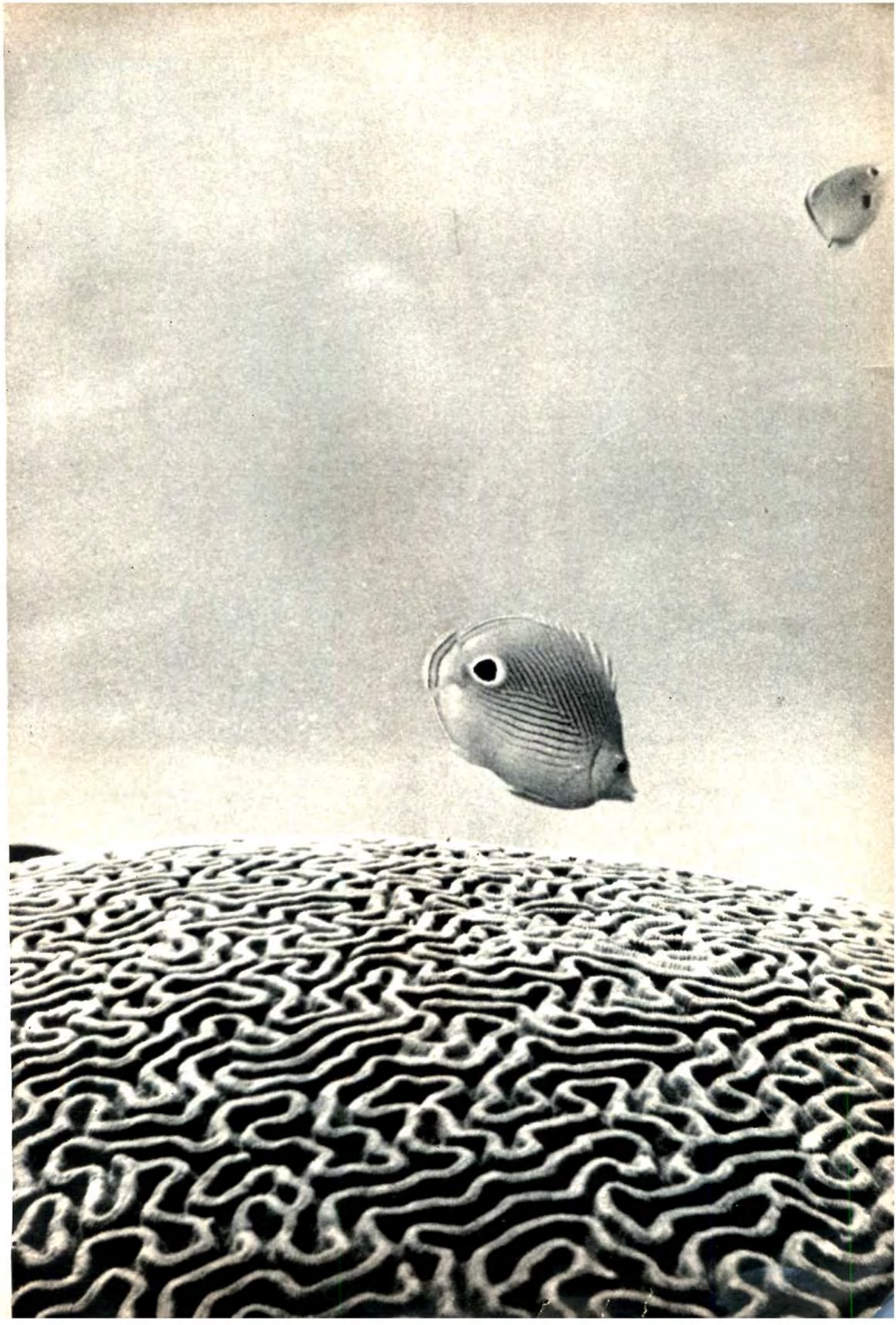


Sign marks beginning of underwater trail at Buck Island Reef National Park, St. Croix. Water here is shallow, 12′ to 15′, so snorkeling gear is all that is needed.

Fritz Henle

Underwater markers direct divers, and call attention to species of corals, fishes and animals. Rules prohibit spear fishing and destruction of marine life.

Underwater National Parks

[*continued from page 36*]

provide diving instruction and sailing trips in a 24′ Rainbow sloop to the underwater park in St. John for scuba diving or snorkeling. Underwater cameras and diving equipment can also be rented from Claude Caron (father of actress Leslie Caron), who operates stores in St. Thomas and in Christiansted, St. Croix. Caron and Hamber are the only sources for compressed air for scuba diving. Rates for rental of diving equipment run from $3 to $5 a day. Guides and/or instructors cost $12 to $14 a day.

The Buck Island Reef National Park is seven miles southeast of Christiansted in St. Croix, and about 10 miles southeast of St. Thomas. Boatmen will find limited marine facilities on this island. In Christiansted the Town Dock has 50 berths and moorings and the Tamarind Reef Marina 20 berths and moorings. Moorings are also available at the St. Croix Yacht Club, Kings Wharf and King Christian Marina.

"The coral took on unexpected shapes and hues. There were skulls of dwarfs and giants; tufts of ochre and magenta mingled with petrified mauve bushes and red tubiporae fabricated like honeycombs. Superb parasols of acropora spread over idling fish that were painted with electric pigments of red and gold. . . ."

The Living Sea, *Capt. J. Y. Cousteau*

Rental of motor and sailboats up to 30′ in length can be arranged through any of the marinas listed above, and if using your own boat, diving equipment, guides, instructors, dinghies, or charter trips can be arranged through the St. Croix Yacht Club; Bill Miller, Christiansted Wharf; Dick Newick, Sailor's Center; Ted Dale, Club Comanche; or Jim Hurd, Sprat Hall. If using scuba, compressed air can be purchased either from Claude Caron, Bill Miller, or Dick Newick.

The Buck Island Reef National Park is well marked with underwater signs and trail markers, and since the park is several miles offshore, a boat is required. Non-diving members of a family might enjoy one of the daily two-hour cruises over the park in a glass-bottomed boat which leaves from Christiansted.

Shore accommodations in the Virgin Islands average $15 per person American Plan during summer months, and $20 or more during winter months. In addition to sailing, fishing, and diving waters, one of the greatest attractions of the Virgin Islands is its free port status. Skin diving equipment, underwater cameras, perfumes, and liquors can be purchased at extremely low prices (Scotch, for example, costs between $2 and $3 a bottle), and unlike other parts of the world, $200 worth of duty-free merchandise can be brought back to the States. Christiansted, St. Croix is a noted shopping center and both of Claude Caron's stores in St. Thomas and Christiansted carry a full line of diving equipment imported from Italy and France, as well as perfumes and other items.

The John Pennekamp Coral Reef State Park, 21 miles long by 3½ miles wide, is situated 50 miles south of Miami and 3 miles offshore from Florida's famed Key Largo. The park covers 75 square miles of spectacular coral reefs, and includes excellent fishing and sailing waters. (See map on page 71.)

Built along a shallow reef extending from Key Largo to the Gulf Stream, the park itself averages no more than 5 to 15 feet in depth, although sections along the outer edge may drop to 60 feet or deeper. Dedicated in December of 1960, park authorities are in the process of developing shore facilities which include marinas, launching ramps, museums, road-

Jerry Greenberg

The "silent world" in Coral Reef State Park off the Florida Keys is just an arm's length beneath the surface. This coral coliseum encompasses 75 square miles.

ways, picnic areas, and campgrounds. The new boat dock was completed this summer. When finished, the park will include a system of underwater trails dotted with concrete and plastic signs identifying various species of fishes, corals, and animals. Before the end of the summer, park authorities expect to place a life-sized statue of Christ on the reef. A gift from Italy's Agidio Cressi, the statue is an exact replica of the famous bronze statue—Christ of the Deep—now in San Fruttueso Bay, Italy.

Although there are many marinas throughout the keys, accommodations nearest to the park area are in Key Largo and nearby Tavernier.

On Jewfish Creek (Key Largo) Gilbert's Fishing Camp and Marina has full marine facilities, 17 berths

[*continued on page 43*]

[*photo report continued overleaf*]

Underwater National Parks

[*continued from preceding page*]

Above: Water in parks is shallow; non-divers can see sights like this through glass-bottom bucket.

Right: Divers in tropical waters wear heavy gloves. This one points to feelers of lobster hidden in crevice.

Below: Aptly called the "lookdown" fish, this silvery member of Jack family is about 1′ long, weighs ½ lb.

[*continued overleaf*]

Photos by Jerry Greenberg

RCULES

Underwater National Parks

[*continued from page 39*]

and moorings. Ocean Reef Yacht Harbor provides berthing space for 80 boats and complete service. At Tavernier the Key Haven Marine Service has full facilities and slips for 14 boats. Note that the water here is only 5′ deep.

There are numerous wrecks throughout the park area, and if passing Florida's newly opened Welcome Marine Station on the Amelia River at Fernandina Beach (north of Jacksonville), they will supply the necessary charts, as well as maps, and full information about the Keys and underwater park.

Shore accommodations in the park area for a double room average $12 to $14 a day American Plan during winter months, and $8 to $10 a day during summer months. Rental and charter of boats, equipment, guides, compressed air, and just about anything else you need can be arranged through Herb Alley, owner of the Key Haven Motel and Marina in Tavernier. For non-diving members of the family, the glass-bottomed "Sea Fan" leaving from Port Largo in Upper Key Largo makes one-hour cruises daily through the park area—a trip divers as well as non-divers will thoroughly enjoy.

The Exuma Cays Land and Sea Park extends from Wax Cay Cut to Conch Cut (see map on page 90), and includes all cays within these boundaries except for Bell, Little Bell, Cistern, and Hall's Pond which are privately leased. The park is 22 miles long by 8 miles wide, and is about 50 miles southeast of Nassau.

Bahamian waters are said to be the clearest in the world, and visibility of 200 feet is not uncommon. Average depth in the park ranges from 5 to 30 feet, although certain areas extend to 150 feet and deeper.

New Providence Island (Nassau) has complete and luxurious marina facilities, and there are marinas at both the northern and southern ends of the park.

At Norman's Cay you'll find gas and partial facilities but no permanent docking space. The Compass Cay Club and the Staniel Cay Club have full facilities for boats but no permanent docking.

For boatmen who fly to the Bahamas, the Nassau

[*text continued on page 74; photo report overleaf*]

Jerry Greenberg

Left: As in most National parks the only shooting is with a camera. Underwater photographic equipment can be rented at same place you get your diving gear.

Above: Most fish are relatively tame and a patient, slow-moving diver can mingle among them as this one did in a dawdling school of grunts and porkfish.

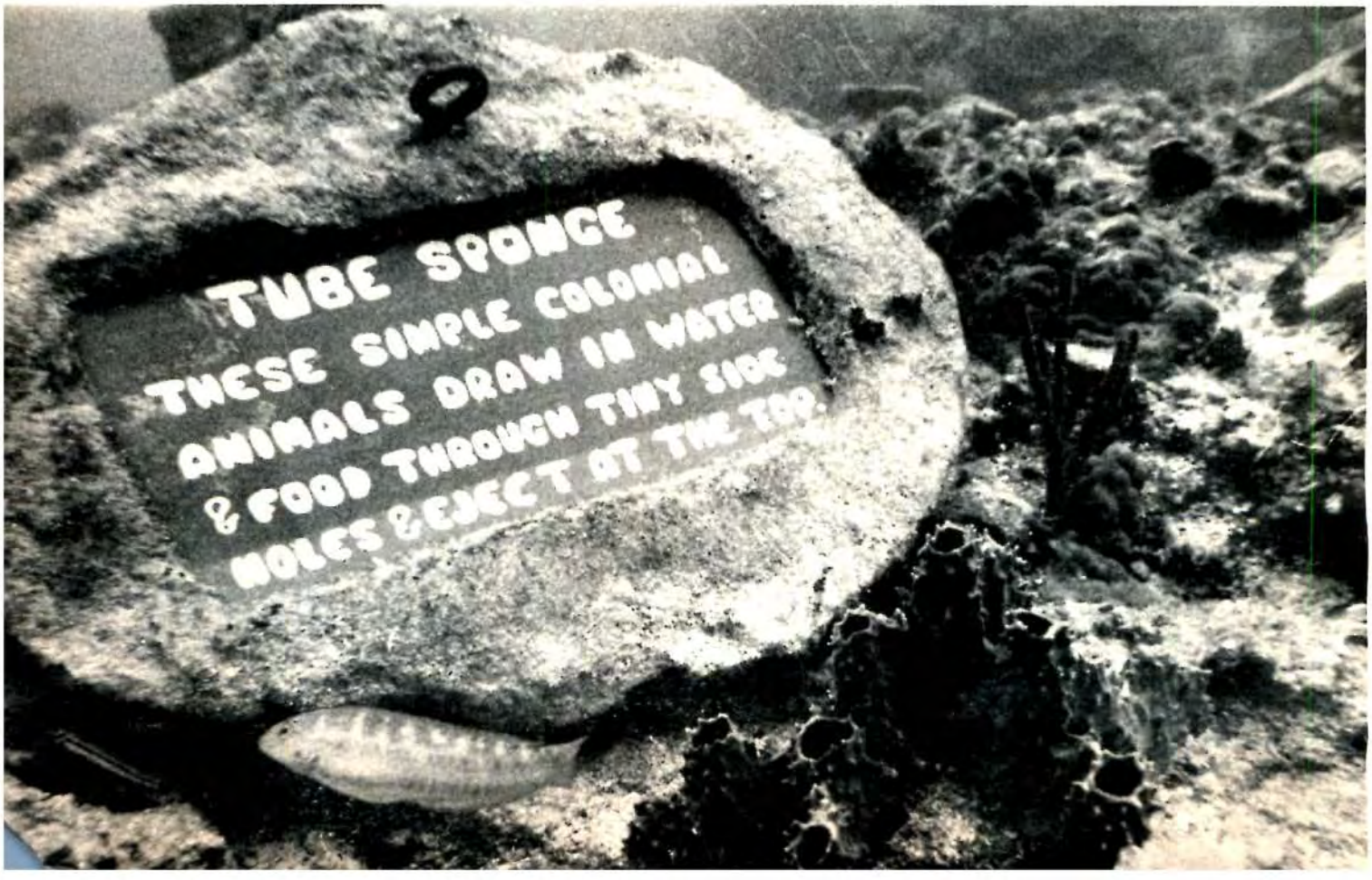
Underwater National Parks

[*continued from preceding page*]

Above: The hawksbill, one of species of turtles found in park waters, feeds on Portuguese man-of-war.

Right: Hovering over brain coral, butterfly fish has an eye-like spot on tail to confuse predators.

Below: Small fish in shadow of marker is a neon goby that eats particles picked from the teeth of large fish.



"The race was from Bangor, Northern Ireland, around Ailsa Craig, and return, but somehow we ended up in Girvan, Scotland, not having rounded the mark."

By W. M. Nixon

A rollicking race on the Irish sea, drolly described and sketched by a crewmember who had not expected to go along

"And There I Was..."

There I was, down at the club minding my own business and looking like someone who'd just spent six frantic, damp, and beery days on the West coast of Scotland; which figured, for I'd just, it so happened, spent six such joyous days. Well, anyway, there I was, when up comes George and says that he'd heard I wasn't going in the race after all, and I responded in doleful kind that 'twas so, alas. The graceful craft in which I'd planned to speed in 'cross bounding main had loused up some gear the weekend before and was kaput, racewise.

"Too bad," says George, "if you'd known sooner you could have come with us."

"There's time yet," quoth I—there being all of an hour to the start—and a lightning streak through town was later identified as myself, heading homewards for oilskins and sailing gear. So quickly went I, that I arrived aboard George's craft the day before yesterday and had a tedious wait until the rest of the crew arrived aboard. Finally, six or seven—or perhaps it was eight—brave souls assembled for a nautical steeplechase from Bangor, in Northern Ireland, 'round Ailsa Craig, off Scotland, and back again.

A last-minute inspection revealed that the dinghy had been forgotten. So George's son, George Jr., and I went ashore again in the club launch to get it. The noble fleet, the whole motley and bizarre seven of *them*, was assembling in the bay, and by the time we'd returned with the wandering dinghy we'd had a grand tour of them all, dropping gear and crewmen and pleasantries about the vastness of the margin by which we'd beat them.

Back aboard ship, things were decidedly strained, for the main had torn on some obstruction while being hoisted, which wasn't surprising—rumor had it that "Noah & Sons, Sailmakers" was stamped on the tack, though I never did check to see. Fortunately, Jimmy, one of the owner's guests aboard, was a sailmaker, and he fixed it in no time at all, which cheered us no end, and was the cue for a rousing song and dance act by the man below stowing gear. His cheerfulness was in spite of having just dropped a crate of vital stores on his kicking foot.

Considering the way things had gone, it was with some surprise that we found ourselves heading for the starting line at something like the right time. Meanwhile—at the battery, the officer-of-the-day applied his hawk-eye to his glass—after he had drained it—and, sweeping the horizon, spied a craft heading in that was obviously going to be late, so he wrote out a note to each skipper postponing the start for half an hour and sent it by the club launch mail. This proceeding circumvented embarrassment for those who could not read flags, but solved no problems for those who couldn't read. We had a heated debate as to what scintillating communication we would return to the officer-of-the-day, but the launch had gone before we'd decided anything.

Anyway, it gave us a chance to get acquainted with George's craft, and quite a craft she was—eight tons

of black, gaff cutter designed by a marine artist on the lines of a French crabber and built in the deep southwest of England.

She sported a wharf-splitting nose-pole about as long as herself, and a great topsail above a gaff-boom which was as big and heavy as the mainboom. Difficulty with gun licenses apparently prevented the placing of a line of cannon along each side.

In the half hour's grace we played around with the unusual roller reefing gear until it seemed more or less workable. Finally, the time was up, and we glided over the line in a close-packed start, the best of it being had by a real offshore racing machine, which went off, in the very Irish, light, damp southwesterly, with spinnaker set, like a thoroughbred. As for ourselves, we were more like a camera club, with budding Rosenfelds recording the epic for posterity, even from the bowsprit end. George was aft, hugging the tiller, hunched up like the old man of the sea, morosely wondering what the heck this bunch of button-pushers thought they were doing pounding around the deck like a mob of tigers in tall grass.

The film gave out, and a brief meeting of the foredeck committee, followed by a consultation with the afterguard, resulted in a blue and white striped spinnaker—belonging to an unsold previous boat of George's—being hauled out and set. It had barely filled when the pole split, but this was fished with an oar in the best big-ship tradition, and we pressed on northeastward with stout hearts and rousing chanteys.

Bearings were taken, and when we'd determined where we were, the log was streamed and the race really began. The fleet was spread out by now, and the racing machine was disappearing into the murk ahead with two other fast ones chasing her.

A German coaster, out of Belfast, came up astern on a course set to cleave us unless she or we altered helm. Neither did, until the last minute, when he heaved slightly to port, although not much, for violent

"We didn't even shout *Chicken!* when he altered course."

alteration would have slammed his stern around and clocked us, which might have got us rather annoyed. As it was, we didn't say a word during this somewhat unreal affair. We didn't even shout *Chicken!* at him when he altered course. The crew was lining the bulwark, staring Teutonically down at us, and we stared Celtically back. We had a jolly old stare all round before he scraped ahead, all but taking our spinnaker with him.

The spinnaker refilled and we recovered. In seconds the air was rent with what we might have said: my word yes, a few crisp epithets and we'd have had him cringing his apologies, oh, yes indeed. We satisfied ourselves by reflecting that superhuman restraint on our part had prevented an international incident.

There was some vague talk of watches as the murk closed in and became dusk, and we plowed on across channel in the slowly freshening breeze, now in the

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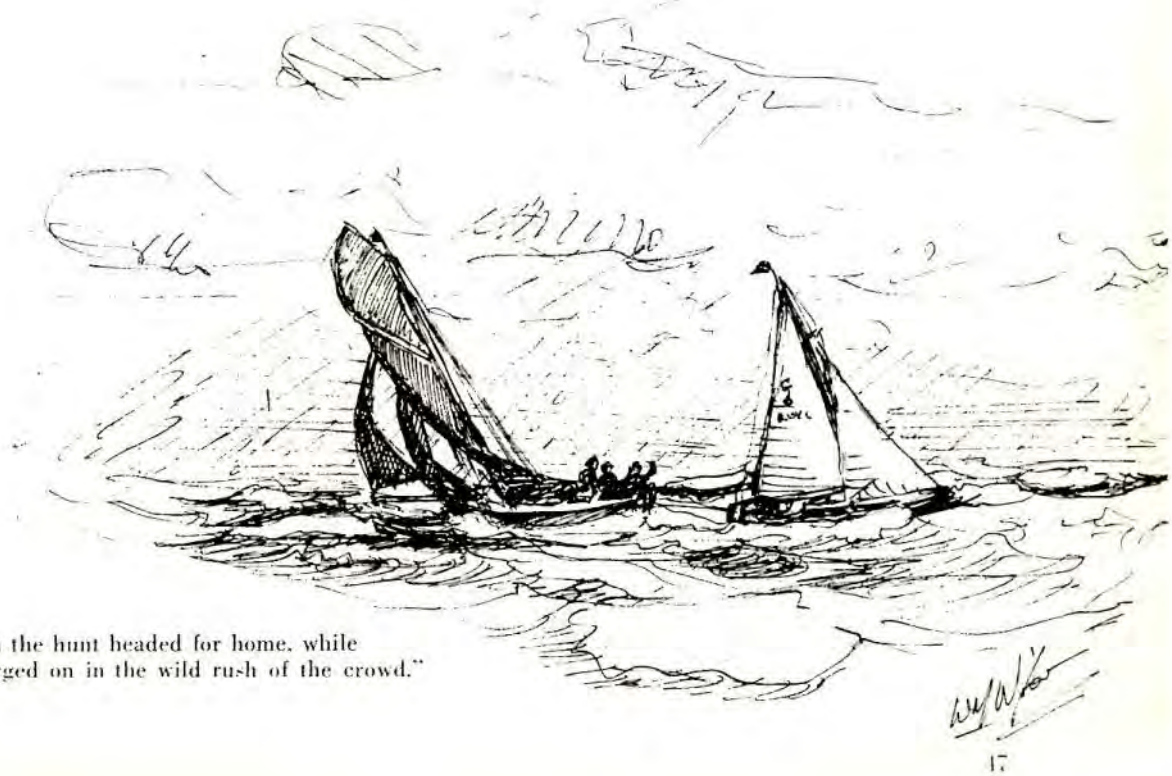


"The smallest boat in the hunt headed for home, while we—mad fools—charged on in the wild rush of the crowd."

"And There I Was . . ."

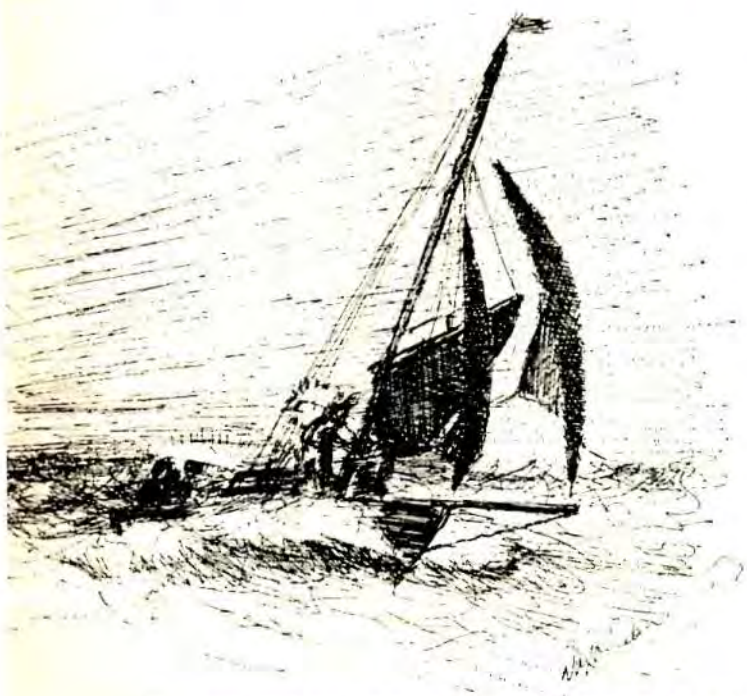
[*continued from preceding page*]

south. Eating was adopted as the most popular sport aboard—second to sailing. George had the boat loaded down with food, and the atmosphere of a seagoing picnic was stronger than ever.

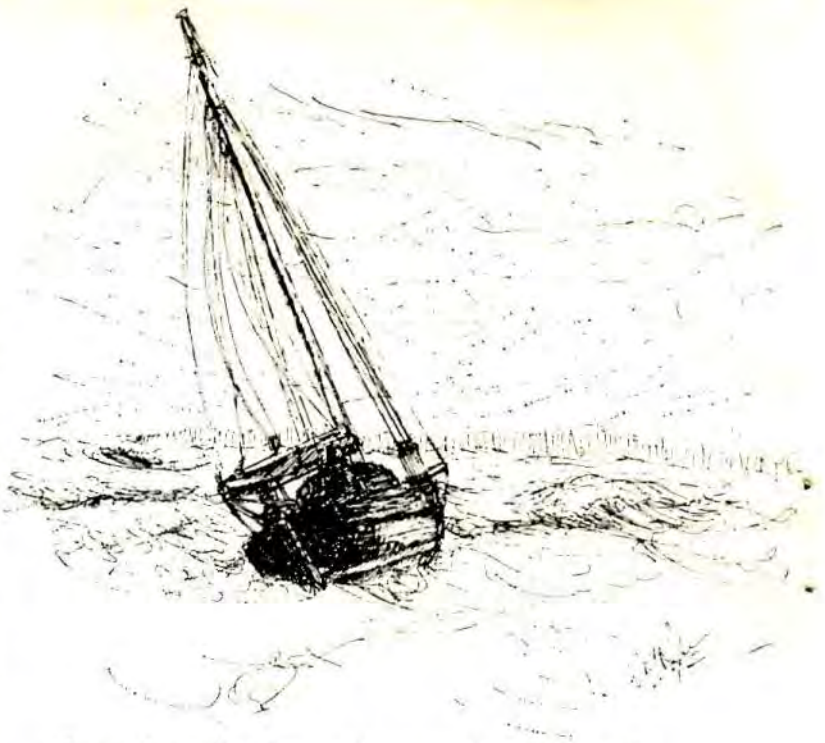
With the wind more abeam and still freshening, the bag came in and a dozy old jib went up in its place. Mike told me, as it was sent up, that it'd have to come in again pretty soon, and should be handled like a sacred relic, for that's what it was, but it would do in the meantime.

It was an imperceptible freshening that came on. The mainboom, with a foreguy rigged, crashed more often into the rushing sea to lee, and the snore of the bow wave became a roar as the sea built up from the south, and the drizzle became rain and grew still heavier. It was difficult in the half light to see what others were doing. A sail behaving strangely caused some pondering among the sages aboard—meaning everyone—until someone identified it as the smallest boat in the hunt turning for home. A sleek little racing sloop that had been ahead of us, passed close by with a wave from the crew and battled back to the west, already hard pressed and looking small and lonely on that miserable night, while we—mad fools—charged on in the wild rush of the crowd. Ah, yes, we knew how Columbus had felt.

Still it piped up, and I filled myself with a bucket or two of anti-seasick pills expecting to be knocked out for the rest of the night. Instead: darkness, and the feeling of ever rushing onwards, and the friendly glow of light round the hatch and the cockpit; and



". . . we spent most of the night on deck rolling down."



"It was the coldest, longest-drawn-out dawn I've seen."

yarning about nights past at sea, and thinking about that lump of topsail that'd have to come in some time. At the helm I was jammed across the cockpit, back against the tiller, as the boat lurched on towards the purple heather and mountains of bonny Scotland, neither of which could be seen. It was reassuring when we picked up the first lighthouse, a beacon glowing distantly through the dark across the tumbling phosphorescent wavecrests. We'd sighted Killantringan.

It was time and more for the topsail to come in, and a cow of a job that was, coming down on the lee of the main inside the rigging and fouling impartially on everything. But, in it came, and we ran easier.

The imperceptible freshening of the wind was a fascinating thing. So unnoticed was it, storming along and shortening sail, that it took an effort of memory to recall three hours before, when we had been snoozing along.

Harder and harder she ran, pushing a lot of sea ahead of her. Fortunately, even more was rushing past astern, so the balance of nature was preserved. In addition, she was hardmouthed, so, to save somebody being thrown out of the cockpit by the heaving tiller, we took a few rolls in the main. It wasn't the best time to discover that the metal in the reefing gear was too soft, but we did just that. A real old swearing session prevailed on the foredeck. We seemed to spend most of the night up there, rolling down and cutting free the sail hoops, until suddenly we found we could reach up and touch the gaff jaws. Still she ran too hard. So, with heaving and hauling, we got the spars amidships and the main was in.

It was about now that the feeling got around that this careening on before the wind was just great and very sporty, but the beating back against it would inspire no laughs at all . . . but definitely not at all. Still, we plunged on, peering at breaking crests ahead.

[*continued on page 92*]

By Edward S. Brewer, S.S.C.D.

Boatbuilding for Amateurs–

Part One

If you've ever thought about building a boat yourself, here's the place to start. You won't learn boatbuilding from the printed page, but this first in a series of articles points out the fundamentals and the pitfalls, and will start you off on the right foot. From there on out you learn as you work.

Any man, or woman for that matter, familiar with handling carpenter's tools, and able to read simple blueprints, can successfully build a boat. No magical formula is involved. The intricate curves and shapes frighten many a would-be builder so they can never get up the courage to begin. If they could, they would soon find that much of the difficulty was in their imagination, and that forming the curves, whether by steam bending or sawing, is much simpler than they ever believed it could be.

Perhaps the greatest natural asset of the boat builder is patience. Building a boat is a step-by-step procedure that cannot be rushed without disastrous results. More time and material are wasted by amateurs because they refuse to plan ahead, and lay out their work in an orderly sequence, than for any other reason. This same lack of patience is also the greatest cause of amateur builders giving up in disgust when things do not work out exactly as planned.

Just as in any workshop, a very useful item of equipment in the boat building shop is a "sittin', smokin', and thinkin'" chair. This should be located where you can study the job at hand, review past mistakes, and think about future progress. Plan at least two jumps ahead.

Besides basic ability and patience, you must also possess more tangible assets—time, finances, building space, and tools. We will consider these in order.

TIME: The average builder can spend about 15 to 20 hours a week on his boat. This adds up to about 1,000 hours a year. Few want to spend more than two years on one boat, and thus the size is limited to a craft of about 30′ maximum size. Much depends upon the ability of the builder, of course; some take as long to build a 25-footer as a more experienced builder will take to build a 35-footer.

The time will vary according to the type of design chosen. A 30′ cruiser of modern V bottom planing hull type will require much less time than a husky 30′ auxiliary sail boat of the Norwegian pilot boat style, with its massive backbone timbers, heavy framing, and thick planking. Thus the choice of design will be limited by the available time, both as to size and type.

It is wise to commence with a smaller boat, and work up to the final "dream ship," if circumstances permit. The experience gained with the smaller boat will insure a higher grade of workmanship with the larger, and will also insure completion in a more reasonable length of time. Even if the "dream ship" is of the small size, in the 15′ to 20′ range,

[*continued overleaf*]

Boatbuilding for Amateurs

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most amateurs find it better to obtain experience by starting off with a 7′ to 8′ dinghy. Such a small boat can be built quickly, will sharpen the builder's woodworking ability, and also serve as a very useful tender for a larger craft when that is finally launched.

An inexperienced amateur builder should consider a 25′ boat as the maximum size he can expect to build by himself, and complete in reasonable time. If he has assistance available for the heavier work, or an experienced builder to guide him, then he might feel confident in tackling a vessel of about 30′ overall.

It must be emphasized that the time involved in building, and cost of materials will vary directly with the displacement of the boat. A 40′ auxiliary of average type, displacing about 18,000 lbs., will take not twice as long, but six times as long, to build as the average 20-footer of 3,000 lbs. displacement. It will also cost six times as much. If you consider 12 months as the time an inexperienced amateur would spend on the 20-footer, it is easy to understand why the same man might well be discouraged after working on a 40-footer for five years, with no end in sight.

Nothing is more true in boat building than the old saw, "haste makes waste." The amateur must reconcile himself to planning carefully, and proceeding methodically. For *this reason*, he must consider very carefully the problem of time as opposed to size.

FINANCES: It appears to be a great failing of amateur builders to expect too much boat for their money. The savings possible in building your own boat are limited by two important facts: the amateur cannot buy at the quantity discount rates of the professional; and his wastage will be much greater due to his inexperience. A professional will often get two strakes of planking out of the same piece of lumber, but the amateur is lucky to get one.

A rule of the thumb, as far as actual costs are concerned, is as follows: figure $8.30 per pound of displacement for a yacht of the best quality throughout in materials and fittings, and about $8.10 per pound for a craft of work-boat quality with minimum equipment. These costs will represent a savings of about 50 per cent to 60 per cent over the cost of the boat built in a professional yard. It must be emphasized that this is strictly a rule of thumb, as some types of construction are naturally more costly than others. For instance, a round bilge auxiliary of wineglass section will cost more per pound than a flat bottom sailboat of the dory or sharpie type, even though of the same quality.

Displacement (or weight) is the prime factor in cost. Thus a heavy, 30′ Tahiti-type ketch will cost more than a 32′ or 33′ sailing auxiliary of normal form, and will also cost more than a 36-footer of light displacement.

When selecting a design to build, consider resale value. Bronze and copper fastenings, for example, are much more expensive than galvanized iron, but the extra cost is well repaid in the long run due to the higher resale value. This is usually more than the additional cost of the better quality fastenings, and also makes for a quicker sale. For this reason it's wise to sacrifice size in favor of quality.

One advantage of building your own boat is the time payment plan that is involved as a matter of course. You buy materials as you require them, over a period of 12 to 24 months, and there is no worry about interest.

SPACE: The selection of a place to build is important. Most amateur boats are truly back yard projects, and *many* a fine boat has been built out in the open. However, it is preferable to build under shelter if at all possible, even if this means erecting a shelter of tarpaulins or plywood.

Many amateurs start in the fall and fabricate as much as possible over the winter in the basement. They make up the keel, stem, frames, etc. The work of setting up and planking is done when the warm weather arrives in the spring. Work outside can carry on during the summer and, if the boat is large, the interior can be completed the following winter by putting a small stove in the boat to provide comfortable working conditions. Even if this plan is followed, a simple tarpaulin roof will permit work to continue during the rains of spring and summer.

It is often possible to rent a large garage, space in a warehouse, or, best of all, a corner in a boat yard for a reasonable fee. Such complete protection has its advantages, as a boat under construction has many enemies. Moisture can cause timbers to swell and warp; hot, direct sunlight may cause them to dry out and check. It is no accident that Lloyds gives higher classifications to yachts built under a roof, and even though you will probably not classify your boat with Lloyds, your "dream ship" deserves the best protection that you can provide.

The working space must be large enough so you can work around the boat, and handle large timbers and planks conveniently. The minimum acceptable should be twice the beam of the hull chosen, and about one and one half times the length. Even this leaves little room for storage of materials, or the setting up of a good work bench. A space having three or four times the beam of the boat is better.

Be sure there is ample overhead room to work comfortably on top of the deck or cabin house when this stage in construction is reached. A good friend of mine built an auxiliary sailboat in a garage with insufficient headroom, and solved his problem by first digging a trench in the dirt floor. In this trench he set his keel, so lowering the whole boat about 3′, and thus gained ample headroom to work on deck. A last word on the subject of space in which to build: be certain that the exit is large enough. Yes, there *have* been cases where it hasn't.

TOOLS: Most amateur carpenters already have the basic tools in their possession. These are hammer, saw, plane, screw drivers, brace and bits, hand drill, chisels, hacksaw, wrenches, pliers, and square. These tools will handle most of the work, and will be all that is required for a small rowboat or dinghy. For a larger boat it will be necessary to expand the tool chest somewhat. The first necessity is a large assortment of C clamps of various sizes. These are used on every part of the boat, and you never have too many. Common sizes are from 6″ to 10″.

The usual claw hammer should be backed up with a ball peen hammer for riveting, and a sledge for driving large drift bolts. Be sure hammers and sledges are of the best quality steel to avoid dents and flying chips. A rawhide, plastic, or hard rubber mallet for driving chisels and gouges is also in order.

The saw is one of the most important tools in your workshop, and skimping on its quality is a foolish way to save money. The best quality, hollow ground saws will out-per-

form cheap blades three to one, and cut faster, cleaner, and with less effort.

A ripsaw and a crosscut are needed. A keyhole saw is handy in tight spots, and essential for cutting holes in plywood for locker doors and bins. The nest of saws with keyhole, compass, and metal cutting blades performs a variety of jobs efficiently. A mitre box and saw are very useful, too, particularly when framing up the interior joiner work.

A steel tape measure is essential. Linen tapes will not do, as they stretch. An 8′ or 10′ tape is very useful, and a 50′ steel tape will more than pay its way in the initial loft work, as well as proving valuable during construction. A 6′ folding rule is also handy to have available, and will be used for the majority of measuring work. It should have brass joints; the steel ones rust, and soon become stiff.

A spokeshave and a draw knife are essentials. The former is for light work, the latter for heavy. The drawknife can be used for roughing out planking, or smoothing up sawn frames for smaller boats. Both tools often serve instead of planes in tight places.

Block planes for end grain, a rabbet plane, and the more common jack plane should suffice. Professional boat builders prefer wooden-bodied planes because they don't jump in green wood. These are usually made by the builder of any strong hardwood: oak, lignum vitae, etc. For long, straight runs you should have a long-bodied plane. A short plane will leave humps and hollows in the work.

Round bottom planes are often purchased for smoothing the hollow in garboards, working in hollow wooden masts, and other jobs. However, these often have too small a radius, and many professionals grind their own.

One of the jobs in boat building that occurs a thousand times is that of drilling holes. These may range from ⅛″ to 2″ in diameter, and from ½″ to, perhaps, 3′ or more in length. For small holes, common twist drills will do the job nicely. These can be used with a separate countersink if required, but where large numbers of countersunk holes are to be drilled, as when planking, it is much easier to obtain one of the combination drills which will do the job of drilling, countersinking, and counterboring all at once.

A selection of bits to be used with a hand brace will take care of most of the larger diameter holes, such as those for through-bolts and drift bolts. For extra long holes it is necessary to obtain ship augers, or you can weld an extension rod onto a standard bit. The 'barefoot' augers are preferred by professionals, as they have no starting screw and are easier to keep driving on a straight line. The standard screw-end bits can be put off course by running into hard or soft grain, whereas the barefoot augers run true.

Scrapers will be necessary to give a smooth finish to planking and spars. There are a great variety of these on the market, and the builder will have to try a few until he finds the type he prefers. Professionals often make their own scrapers from broken band saw blades or old files. The metal in these is of high quality, and will take and retain a sharp cutting edge.

An assortment of wrenches will be required, as there are many types and sizes of nuts and bolts used on the average craft. Six and 10″ crescent wrenches, a pipe wrench, a pair of good gas pipe pliers, and electrician's pliers will handle most of this work. Socket wrenches are handy, but not essential. When needed, it always seems that the set contains every other size except the one you are working on.

One of the varieties of vice-grip pliers now available will prove useful, as they perform a variety of jobs, including that of serving as a small clamp.

For lofting the lines full size, and setting up the frames, the builder will need a good steel square, bubble level, and plumb bob. An adjustable bevel will be useful for transferring frame bevels from the full size lofting to the molds.

Tools characteristic of the boat building profession are the caulking iron and mallet. These are obtainable from any good ship's chandler in a large assortment of shapes and sizes. The types and use of these tools will be described in a later article. Many boats do not require caulking. So don't rush out and purchase a set of irons, at least not until you have selected your plans.

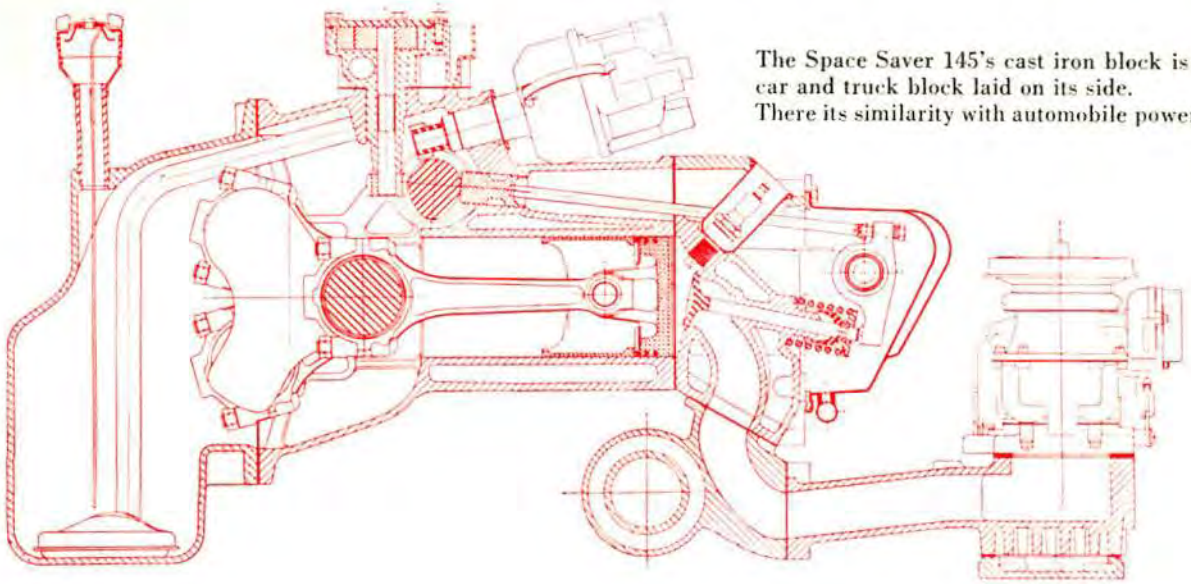
Other professional's tools are the adze, broad axe, and hatchet. These are used to shape and finish heavy timbers in the backbone of larger hulls. However, they are dangerous in unskilled hands, and are not recommended for amateur use. If your plans call for timbers larger than you can handle conveniently, it is advisable to have these sawn to shape by a local mill or boat yard. The cost of having this work done is reasonable, and less than the doctor's bills incurred in having your toes sewn back on.

POWER TOOLS: These are nice, but not necessary. Many fine boats, ranging in size from skiffs to the *U.S.S. Constitution*, have been built without them. However, they are valuable as a time and labor saver, and, if electricity is available, a heavy duty ¼″ drill with keyed chuck is a wonderful assistant. This can be fitted with accessories for driving screws, grinding, sanding, sawing, polishing, and even stirring paint. The circular sander, as often seen on these drills, is worse than useless, though, and one of the orbital type or a belt sander is preferred. The circular sander will leave a fine planking job looking as though it had been scoured with a piece of coral. The flexible backing pads alleviate this a bit, but are not the whole answer. The orbital or belt sanders do a much better job. Other useful power tools are a circular saw, band saw, planer, sander, and jointer.

The finest of cutting tools are useless unless they are sharp. Many amateur carpenters and boat builders persist in using tools long after they have become dull, and much poor work is turned out as a result. A high quality hand grinder and an oilstone are essential, and must be used often. Hand grinders are best for sharpening tools, as the power grinders operate at too high a speed for proper sharpening and will burn the metal, ruining the temper.

Those tools mentioned above constitute a basic workshop for boat building, and will handle 90 per cent of the jobs required. Most do-it-yourself enthusiasts already will have a large part of the equipment and, as tools are still relatively inexpensive these days, it is easy to complete the inventory as you find a need for them. Many other tools are available to the boat builder, and you will undoubtedly acquire a variety as you proceed with your work. Do not go overboard on them though.— ⚓

The next installment in this series on Boatbuilding for Amateurs *will be published in a forthcoming issue of* Popular Boating.—*Ed.*



The Space Saver 145's cast iron block is a slant-6 car and truck block laid on its side. There its similarity with automobile power ends.

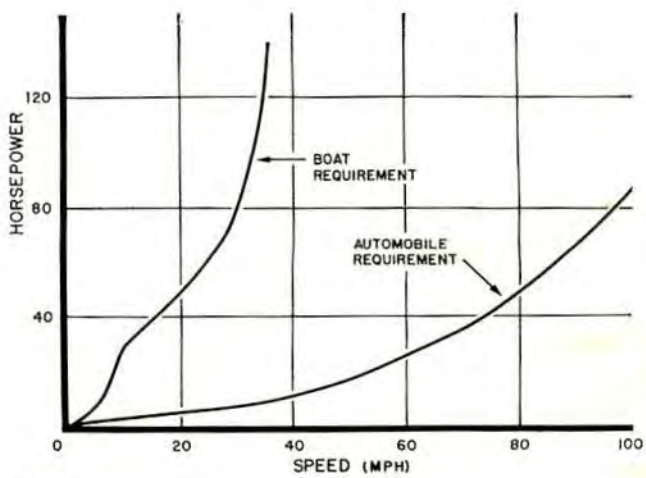
Flat-Out Power

A new, low-profile engine scores a breakthrough in design, which, with a companion outdrive unit, spells bonus space for boatmen

The fact that pushing a 19′ planing hull at a speed of 35 mph requires as much power as it takes to push a passenger car at 100 mph dramatically illustrates how the cards are stacked when an engineer is assigned the task of coming up with a "compact", yet powerful engine for boats. When the "brass" tell him to make it around 150 hp and *flat*, citing existing units as examples of what's too bulky and high, he's really on the spot. But, like boatmen, some engineers are dogged and optimistic to the point where few things seem impossible as long as there's water in which to wallow. The result is the flattest 4-cycle marine engine in its power range yet—the Chrysler Corporation's Space Saver 145. It is only 17″ high.

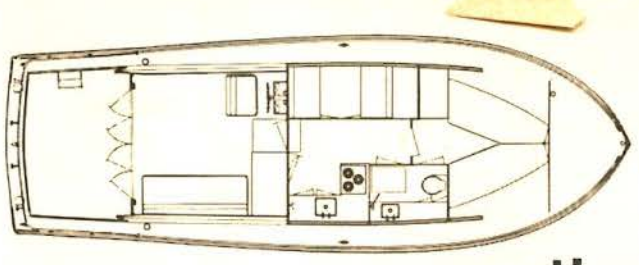
The introduction of the new powerplant, which is intended for V-drive and angle drive as well as outdrive applications, coincides with the production-line debut of a companion Chrysler propulsion unit—the Drive 90° outdrive. Combined, the two form a truly exciting package—one that opens the door to new design concepts in both hulls and interiors. With a 145 hp engine that measures 31″ in length, 32″ in width, and a mere 17″ in height, engine compartmentation

This is really condensing your propulsion—a 145 hp Space Saver and a Drive 90° Outdrive—and all key engine components are accessible from top.



Today's faster-than-ever pleasure boats pack a lot of power for their speed. Here's how a 19′ planing hull's demands compare with those of a car.

Smartness and comfort in three cabins. A hull that can really go to sea. Plenty of extras that don't cost extra.



Meet the all-new 38′ Sea Hawk Sedan

Take the rugged, soft-riding Sea Skiff lapstrake hull. Add the roominess, convenience, and privacy of a sedan layout. Include equipment you usually pay extra for. Hang a sail-away price tag on the result, and you've got Sea Hawk, with dollar-for-dollar value that begs to be compared with other boats! □ She sleeps six in three spacious cabins. The deck-house doors fold back to make a large open area from control station to transom. Standard equipment includes shower, water heater, big, all-electric galley (with 3-burner range, oven, and 10 cu. ft. refrigerator), draperies, helmsman seat, dockside wiring, and many other extras. See your dealer soon. Ask him about Chris-Craft's new Warranty (2 years on parts and 1 year on labor!)

Chris★Craft®

Sea Hawk is available with twin V8's or diesels. □ For information, write Sea Skiff Division, Chris-Craft Corporation, Pompano Beach, Florida.

becomes intriguingly uncomplicated. The accompanying diagrams explain why.

In an exclusive interview, Niel A. Newman, Manager of Chrysler's Marine Products Engineering Dept., told POPULAR BOATING that the development of the new engine and the companion Drive 90° was sparked by the obvious need for such units in the pleasure boat field and made feasible by the current upward swing in boat sales volume. "The space problem," explained Newman, "has been acute in all pleasure craft. With the conventional engine, either in-line or V-8, more power has, in most cases, meant less space for people, or dictated a larger boat.

"The obvious answer was an in-line engine laid on its side with the cylinders at right angles to the keel line. Such an engine, properly designed, could be installed so all of the cockpit area could be used. In addition, due to low height, its center of gravity would be low, affording maximum stability.

"Speed is a chief demand these days," he went on, "yet so is compactness. The boat traveling at 35 mph demands more power than an automobile moving better than twice as fast. The significance of this becomes apparent when you realize that the average boat owner thinks nothing of running his 38 to 40 mph boat all day at 30 to 35 mph but would be appalled at the thought of driving his automobile at 100 mph continuously. Then, too, automobiles are driven to some extent every day, while a boat may be idle all week, then used almost continuously at full throttle over the weekend. These alternating periods of idleness and full-speed action put special, extreme demands on a marine engine.

"Long runs at high speed, and consequent high temperatures, dictate that the compression ratio of the boat's engine be lower than a car's, to run on fuels of the same octane rating.

"In two other very important ways the marine engine differs from its automotive cousin. It has to meet different fire safety standards, and draw upon another cooling source. The water the boat rides in is, naturally, the chosen coolant. It is convenient, plentiful, and eliminates need for a radiator and fan. But this necessitates the use of a self-priming pump, rather than the automotive, non-priming, centrifugal pump system. To avoid ignition of gasoline fumes which may accumulate in the bilge, the exhaust manifold must be water-cooled. The exhaust manifold alone requires fully as much cooling as the cylinder block and head combined. The carburetor inlet must be covered with a flame arrestor in case of backfire. Starter and alternator must be shielded to prevent sparks. Because salt water is, more often than not, the coolant, all cooling system parts and passages must be effectively protected against corrosion."

That was how Newman described the kind of preliminary thinking that had to be done by his staff in starting the project that resulted in the Space Saver 145. The Chrysler Super Crown slant-6 automobile engine was selected as a basis for the engine. Newman's men took the 6-cylinder block, laid it on its side, and completely revamped the rest to marine

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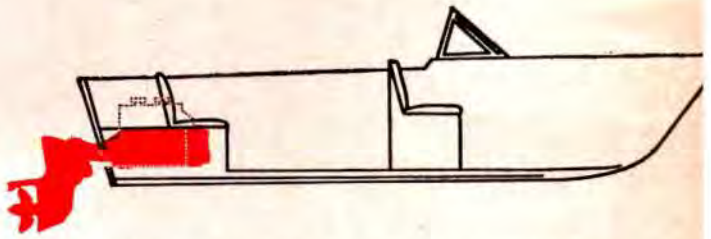
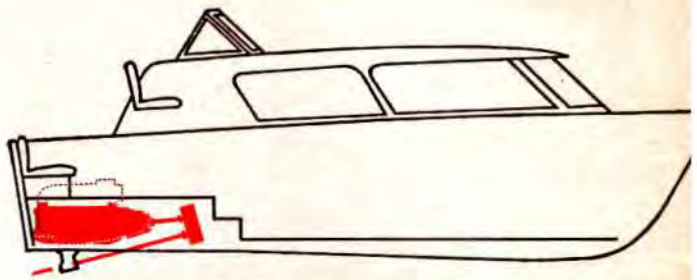
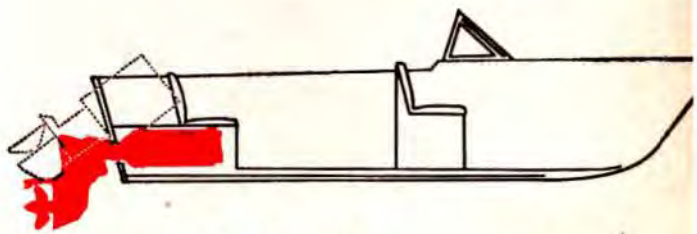


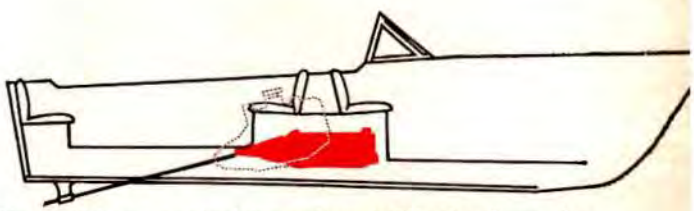
Space consumption of a Space Saver 145/Drive 90° as compared with that of an 80 hp in-line engine (dotted lines) mounted for outdrive propulsion.



The new, 17"-high powerplant is adaptable to this type of V-drive installation. Here's how it looks in the place of a low-silhouette V-8 engine.



Space Saver 145/Drive 90° combination in comparison with a large outboard engine. Center of gravity is kept lower, and tilting isn't a space factor.



New 145-horse angle-drive unit as it fills the shoes of a conventional V-8 engine (dotted lines) amidships. Angle-drive and V-drive components are priced at $200.

The potential America's Cup challenger, being built for Tony Boyden, has very little curve from the forward end of the keel to the stemhead. Here you can look up at the extremely sharp V sections of this boat's fine underbody.

By Cyril Costello

A Bitter Cup Of Tea?

The British are brewing a challenge for the America's Cup that may be hard to swallow. Here's a report on their new 12-meter and the men behind it.

David Boyd, designer of the new Twelve, has come up with a hull that shows little resemblance to *Sceptre*, unsuccessful challenger he designed for the 1958 races.

Boyden and his wife, Valerie, examine refinements in plans of 12-meter he hopes will race for America's Cup. No boats are building in U.S. to defend Cup in 1964.

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Owner and prospective crew members have been in serious training since last winter. They're working out on Lord Craigmyle's *Norsaga* and Boyden's *Flica II* in a series of races on Weymouth Bay off the south coast.

Observers in Robertson's yard. Sandbanks on Clyde, where the new boat is building say she's a "marlinspike" compared to "rolling-pin" lines of blunt-bowed *Sceptre*.

A Bitter Cup of Tea?

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The framing is steamed oak alternating with laminated mahogany, which is also used for stem, keel, sternpost, and planking. The deck is made of plywood.

Photographs by Desmond O'Neill

Mastmakers; Ian Proctor (left) heads the company that will produce the stick from aluminum supplied by Alcan. With him is Charles Brooker who will supervise.

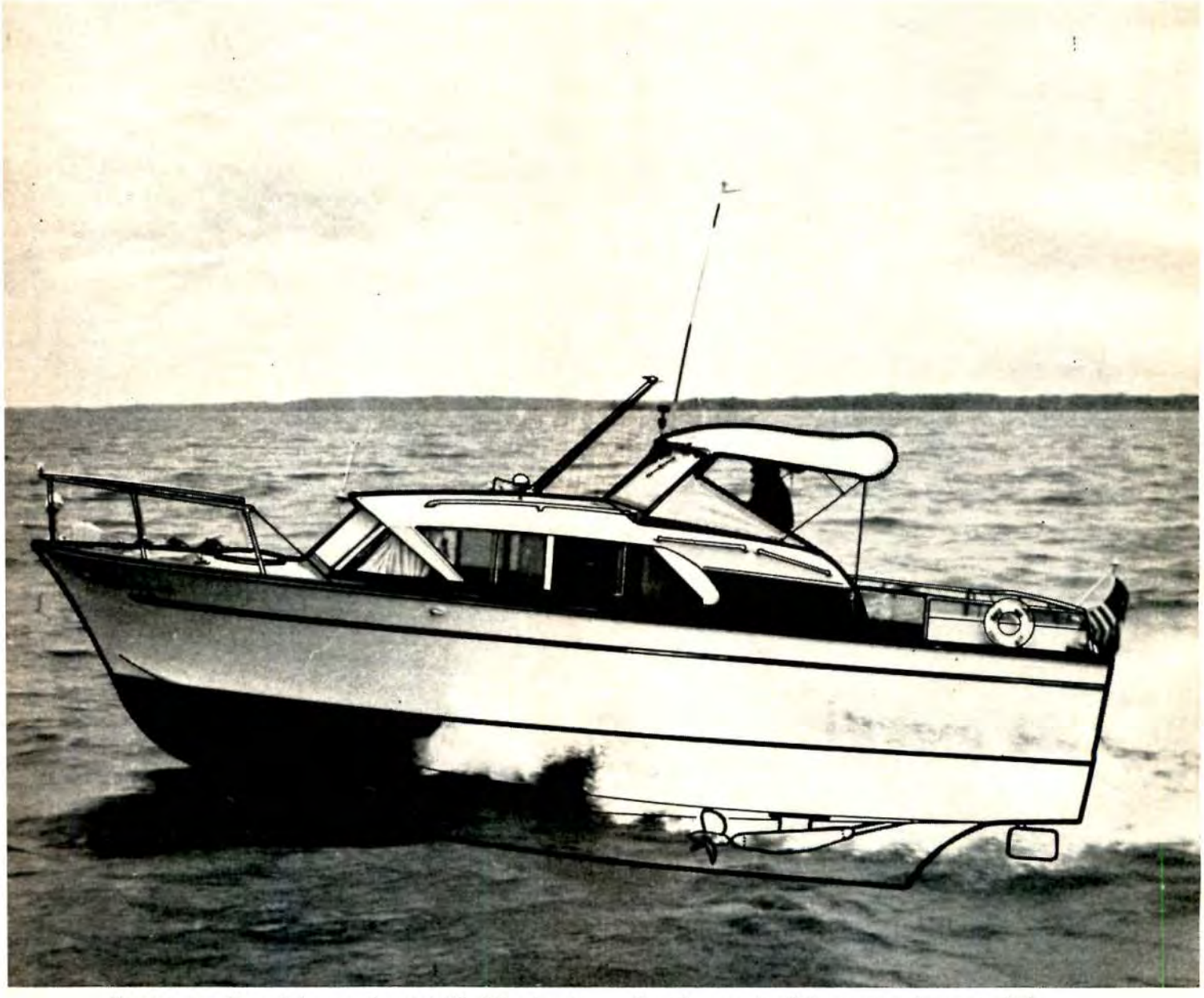
Fred Lanegan (left) checks out coffee grinder made by his printing machinery factory. Ron Matthes designed winch with handles on four sides of the head.

In his loft Bruce Banks surveys some of the sails he designed for the new Twelve. Banks is a possible helmsman; "Stug" Perry is more likely choice at present.

By Robert Hobbs

New Twist in Propulsion Systems

A cruiser with twin tractor propellers, and a runabout with bow and stern jets, set new standards of maneuverability that are bound to influence boat designs of the future



Tractor propellers of the experimental "Yachting Level Drive" are mounted amidships on stock 27′ Chris-Craft. Great increase in efficiency comes from zero shaft angle, elimination of obstructions in front of prop.

Even if you know where you are headed, and even if you like where you are going, these two boats are so exciting to turn, and turn so dramatically, that any driver would change directions frequently just for fun.

Although the two boats have amazing maneuverability in common, they are quite unlike in other respects. One is a 27′ Chris-Craft especially equipped with what is called the "Yachting Level Drive", "YLD" for short. The other is a jet-propelled 18′ fiberglass speedster that's built by the Upson Marine Corporation in Painesville, Ohio. Both boats achieve the ultimate in turning, being capable of full turns in their own lengths.

The Upson can actually turn on what's left of a dime after buying two packs of gum. This runabout has an ingenious arrangement of jets and controls, including a pair of lateral jets at the bow that produce remarkable directional control. Its *clocked* rate of turning is 12 360° turns a minute, or one complete turn in about as long as it takes to count up to ten.

As the answer to a woman driver's prayers, the Upson not only can go in any direction, al-

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This jet-powered, 18′ fiberglass boat, built by Upson Marine, has two jets installed laterally in the bow. Highly maneuverable, the boat is steered by a control stick, and moves in any direction the helmsman wants.

The tempo is hot and vibrant when you and your boat tie into a chum-gulping mass of slashing bluefish—one of the ocean's hungriest customers

It was a dark August night and we were heading slowly south along the Jersey coast on a 27′ cruiser out of Brooklyn, N.Y. We'd cautiously crossed choppy, debris-laden Ambrose Channel, passed Sandy Hook, and could now see the lights of what looked like a city at sea—a vast armada of pleasure and commercial craft congregated on the bluefish grounds. We'd heard that the blues were running good, and the bright patch of ocean toward which we steered confirmed the report. There were six of us on board and each was itching to tie into some of the scrappy gamefish that had prompted so many to forego sleep for a spot at the rail of a boat. All along the Atlantic Coast, from Cape Cod to the Gulf of Mexico, similar fleets are to be seen when the blues are in.

No matter how you go about catching them, you can count on bluefish to give you a good fight and plenty of action—the kind of action that attracts even those who couldn't care less about fishing under normal circumstances. Few fish of their size pack as much power, speed, and endurance in their bodies.

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New Twist in Propulsion Systems

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most without notice, but with only a few limitations, several directions at the same time. If this steering could be adapted to automobiles, parking would be a lot more popular.

Upson has the normal forward and reverse controls. It can also move sideways and diagonally while holding a fixed heading, and, for tight turning, it can move the bow to one side and the stern to the other.

The forward-reverse and bow directions are controlled by a lever resembling an aircraft joy stick: the boat moves in the direction the stick is moved. The lateral direction at the stern is controlled by the steering wheel. In normal open-water operation, the boat is steered by the wheel alone, and has handling characteristics that correspond to those of other, sim-

in a running propeller axis of zero.

The YLD will not turn as rapidly as the Upson, but it turns as sharply. Both boats turn level in their own length, and no boat can do better. The YLD will make about three 360° revolutions per minute, which is very fast for a 27′ cruiser.

The YLD turning is made possible by the location of the propellers amidships. Since the turning axis is approximately between the propellers on twin screw boats, the conventional boat pivots on a point near the stern while the YLD turns on the fore-and-aft mid-point.

From the standpoint of propulsion efficiency, the YLD is close to optimum for the submerged screw propeller with respect to location and operating con-

Singing the Blues

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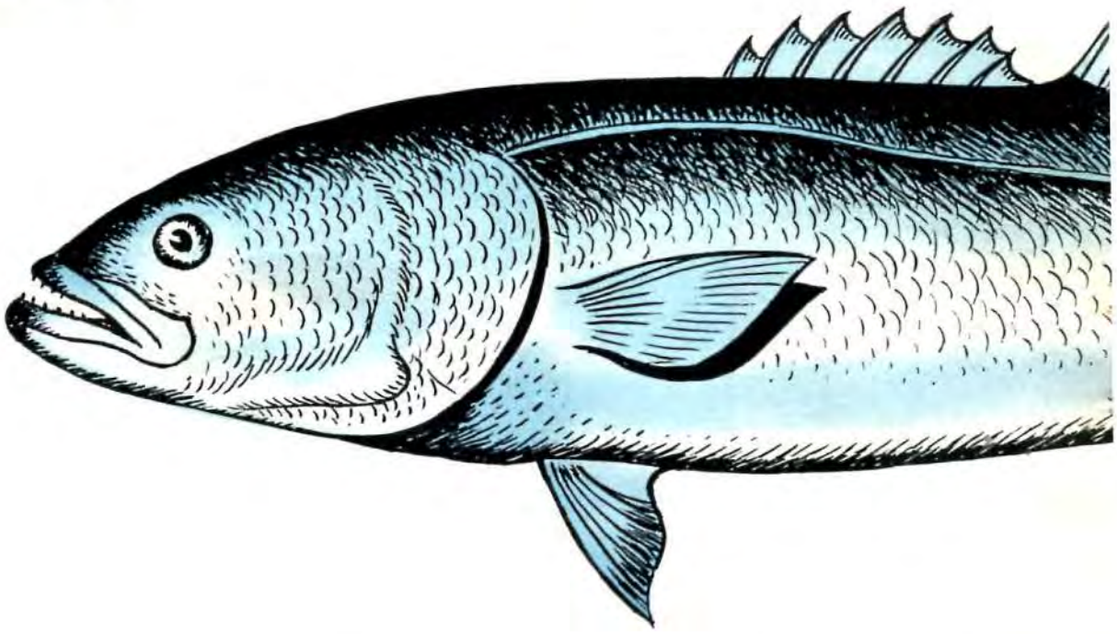
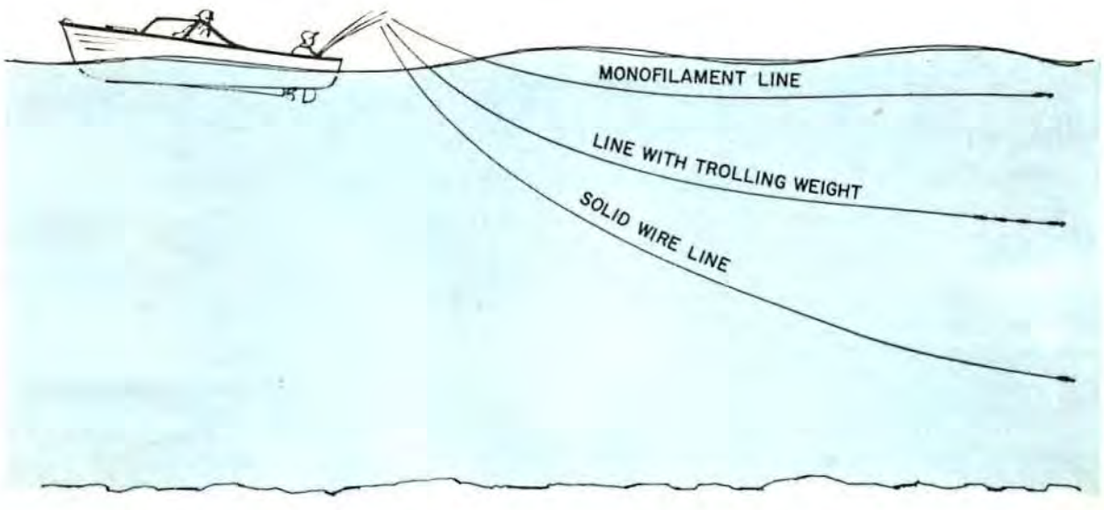


Blues or choppers, as they are sometimes called, never give up. When you've boated them they'll bounce around the cockpit sole, floorboards, or fish box for many minutes, and remain capable of relieving you of a chunk of flesh far longer than you'd expect, should you be careless enough to give them the chance. This applies whether the specimen weighs a pound or 12 lbs., as all have razor sharp teeth. Even snappers, as baby blues are called, are capable of drawing blood.

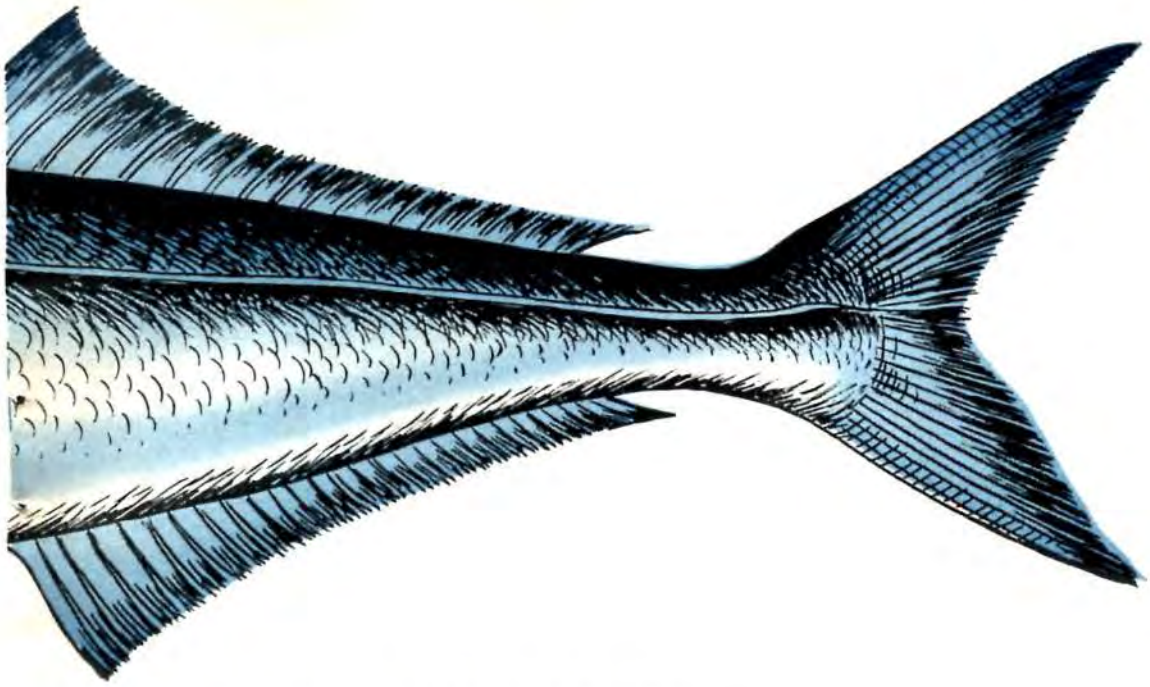
In northern waters, May through October are the months for blues, with late summer and early fall offering some of the fastest action and biggest fish. Boatmen who summer in the north and winter in the south can enjoy bluefishing the year 'round. September to December being the best months for blues along the East Coast of Florida. On the Florida Gulf Coast the late winter months are good.

With a boat at your command, catching them is easy, and there are numerous ways to do it. Rigged up with sinker and baited hooks, you can still-fish for them in places where they decide to linger because of an attractive baitfish population. You can seek them when they're on the move by trolling or casting, or get them to seek you by enticing them with chum. Offshore and inshore ocean waters, bays, sounds, and inlets, all are among their haunts.

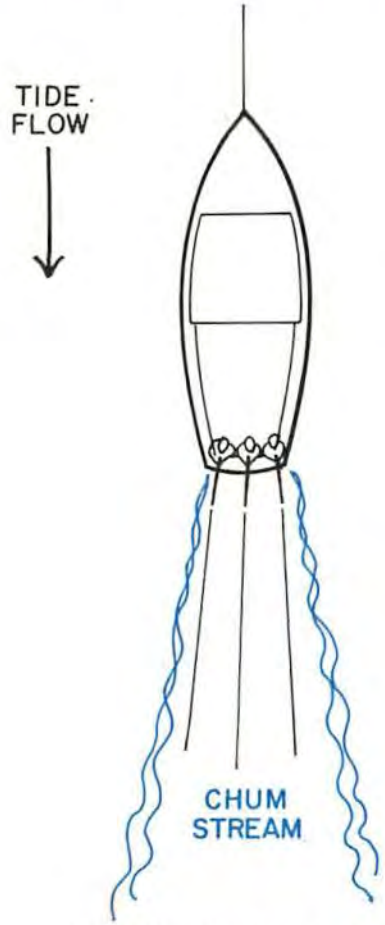
[*continued overleaf*]



Here's how to get your offering to where the blues are when trolling. Line and lure are sufficient when fish range near surface. Using one or more barrel-shaped weights gets you deeper. Wire line gets you way down.

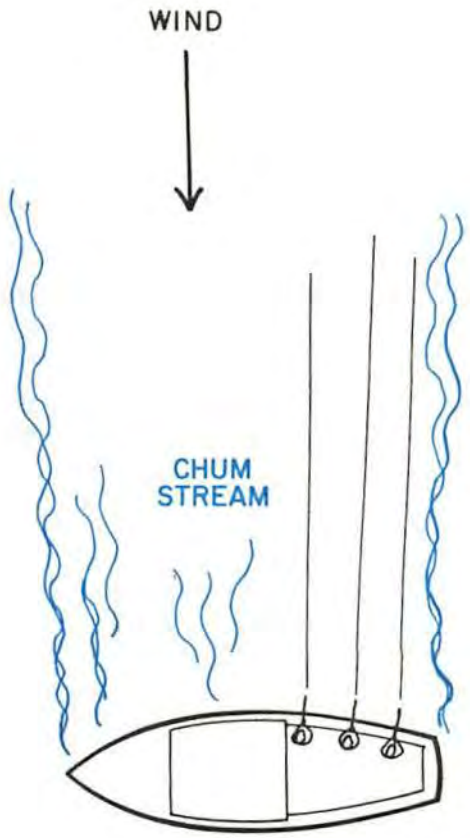


Bluefish (Pomatomus saltatrix) taken by anglers fishing from boats range from a pound to better than 12 lbs. in weight. All are scrappy customers.



CHUMMING AT ANCHOR

Dribbling ground mossbunker over the stern brings the blues to you. Once they're hitting, it sometimes pays to toss in chunks of bait to keep them interested.



CHUMMING WHILE DRIFTING

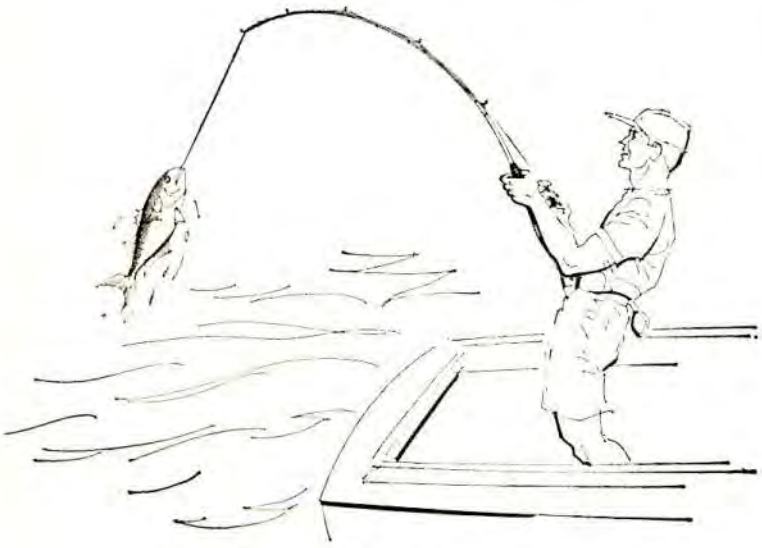
If current and/or wind aren't too strong, and action at anchor is spotty, try drift-chumming. Drifting at outset of a chumming session is also good strategy.

Singing the Blues

[*continued from preceding page*]

Tackle for blues

If you're already geared up for fishing of one kind or another, chances are your present tackle is suitable for taking blues by one or more of the methods I'll outline. They can even be taken on light, fresh-water, spinning tackle, if you know your stuff and like a prolonged battle. However, if you're starting from scratch and will be chumming or trolling for your blues, a salt water boat rod with backbone enough to permit heaving 6 to 12 lb. fish out of the water and into the boat, and any 150 to 200 yard, star drag, salt water boat or pier reel make a good outfit. If you'll be concentrating on trolling, then a light offshore



Here's how you boat a blue: unless you're using very light tackle, just reel him short and heave him up and into the boat. Blues chew up landing nets.

trolling rod and a 3/0 Penn or Ocean City reel are a good combination. If you'd like to take advantage of bait casting opportunities, which afford the utmost sport in terms of challenge and fight, gear up with a spinning outfit, too. Here, a 7′ to 8½′ salt water spin-rod and medium-sized spinning reel do the trick.

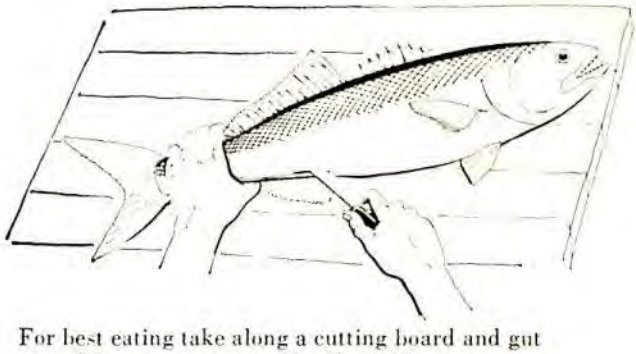
Although linen, braided nylon, and dacron lines are used, today monofilament lines are favorites for both conventional and spinning reels. They are strong, thin, and less readily seen by the blues. The strength of the line you use will, of course, depend on the type and weight of rod you are using. The salesman at any good tackle shop will recommend the right thing. For deep trolling, solid wire line, loaded on a reel which you'll use strictly for deep work, is best. More about that later.

Long-shanked 4/0 to 7/0 hooks, such as the Carlisle, Pacific Bass, or Eagle Claw pattern are best, since the sharp teeth of the blues are less likely to bite through a shank than a leader, and it is easier to remove such hooks from the fish's mouth. If your reel is loaded with 30 to 40 lb. test monofilament, it's okay to tie the hook directly to the line. But if you're using lighter stuff a short wire leader between line and hook is in order. If you'll be spin-casting or trolling for your fish, you'll also require lures. I'll brief you on them in describing the fishing methods.

Chumming for blues

I've chummed for blues in bays, inlets, and offshore. The ocean, anywhere from a few hundred yards to several miles offshore, invariably produced the best catches. The first step in a chumming trip is the purchase of the mossbunker, or menhaden, which most non-commercial boatmen buy already ground and ready to use. Menhaden are oily, deep-bodied fish, like herring, that are caught by the millions and processed for use in animal and poultry feed. However, tons of the "bunkers," as they are usually called, are diverted to bait houses for sale to bluefish and tuna anglers. Much of this is ground up and sold in five-gallon cans.

For bait, butterfish are a favorite. Whole bunkers are good if they are fresh, but tend to soften quickly,



For best eating take along a cutting board and gut your fish as soon as possible. Grab blue by the tail, insert knife at vent, and slit toward head.

after which they become hard to keep on the hook. Butterfish are a bit tougher. About five pounds is enough for three or four anglers.

Once on the fishing grounds, you either anchor or drift, depending upon the strength of the tide or wind, time of day, or what the other boats are doing. As a rule it's best to start off by drifting if it's daytime, and the wind and tide aren't too strong. At night, and when it is windy it's best to anchor. If, when you get to the fishing grounds, you find most of the other boats drifting, fall in behind them and do the same thing. If they are anchored, then pull up alongside, about 50 feet or more from the nearest boat, and drop anchor.

Before you start chumming, spread a plastic sheet or other cover in the stern to protect the boat from spilled particles of fish. The latter can be tough to

[*continued on page 68*]

Popular Boating's

$1,000 Prize Contest

"GREAT MOMENTS IN BOATING"

This is a words and picture competition. It works like this: In the course of your boating experience you undoubtedly have photographed scenes or events that are very meaningful to you personally. From existing pictures—or those you will take this summer—select the one photograph that represents a great moment in boating for you. Then in 25 words or less, tell us why it is significant. Perhaps you have captured the violence of a storm or the calm-water serenity of an anchorage at twilight or the tautness in the face of a racing skipper. There are no restrictions on subject matter, except that it be related to boating.

This is not a contest for expert photographers. Your entry will be judged on how well your picture and your words express the moment you have chosen. It does not have to be a "great" moment for the boating world as a whole, but a great moment to you personally. So practically everyone who loves the water, and has enjoyed the endless pleasures of boating is a logical contestant.

ENTRIES must be postmarked not later than midnight September 6, 1963.

PRIZES:

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Third prize.....$100.00

Ten honorable mention awards of $50.00 each. Prize-winning photographs, descriptions and winners' names will be published in the December 1963 issue.

Here are some sample entries

"Between sky and water—the vastness of solitude."

"It takes guts and skill to steer along the brink of danger."

"The day the kids won: it meant more to us than it did to them."

"There's a stirring feeling of exultation riding the thundering sea."

CONTEST RULES: 1. The contest is open to all persons except employees of Popular Boating and the Ziff-Davis Publishing Company and their families. 2. Each contestant may enter one photograph (black and white, or color), accompanied by an appropriate description (as outlined above) in 25 words or less. Each photograph must be the original work of the entrant. If return of entry is requested, it must be accompanied by self-addressed envelope with sufficient postage. Return postage to foreign countries should be in the form of International Reply Coupons, in sufficient number. Each entry must be submitted with entry blank as provided below. 3. Prize-winning photos, including all reproduction and promotional rights, become the exclusive property of Popular Boating. All prize-winning entrants will be required to furnish negatives, as well as model releases (where necessary) before prizes will be awarded. The right to copyright and re-new the copyright of prize-winning pictures throughout the world shall be the exclusive property of the Ziff-Davis Publishing Company. 4. Address all entries to Contest Editor, Popular Boating Magazine, One Park Avenue, New York 16, N.Y. Entries must be postmarked not later than midnight September 6, 1963. 5. Popular Boating will select a panel of judges which will be announced in the next issue of the magazine. The decision of this panel will be final. 6. Prizes will be awarded (as indicated above) on how well your picture and your words express the great moment in boating and its meaning for you. Consideration will be given to the character of the chosen situation. Technical excellence in photography will be noted but is not a primary consideration. 7. While it is the intention of Popular Boating to exercise care in handling entries, the magazine assumes no responsibility for loss or damage to contest entries. No entries will be acknowledged, nor will the Contest Editor enter into correspondence of any kind regarding entries. 8. Photographs which have been published in, or accepted for publication, or which are under consideration by any publication other than Popular Boating and other Ziff-Davis publications are not eligible. 9. Prizes will be awarded in the form of checks.

Contest Editor, Popular Boating
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Please enter the attached picture and description in your Great Moments in Boating Contest. They are submitted in accordance with the rules, which I have read.

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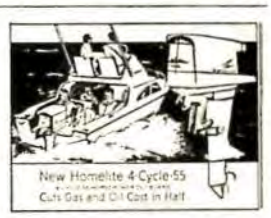

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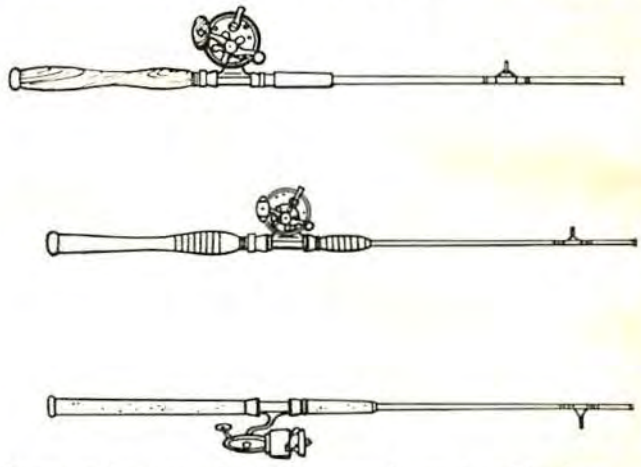
Singing the Blues

[*continued from page 64*]

clean up and what you miss gets quite odoriferous. In a large can, mix ground bunker and sea water to the consistency of a thick soup. A plastic garbage can makes a good mixing container. To chum, ladle some of the mixture over the side or stern at regular intervals to form and maintain a slick. Use a cook's ladle or make a substitute by nailing an opened soup can to a length of scrap wood. Dribble chum overside without prolonged breaks until the bluefish show up. Some days this occurs in a short time, while on other days it takes a while before you get action. When the bluefish appear, the first indication is usually a strike on one of the lines baited with a piece of butterfish. When this happens it's a good idea to cut up some bunkers or butterfish into small chunks and throw a handful overboard every so often. This gives the blues something to chew on and holds them in the chum slick.

Impale a piece of bait on the hook, drop it overboard, throw your reel into free-spool, and let the line run out with the current in the chum slick.

If the blues are near the boat and on top, your strike may come soon. But if they are lying some distance behind



Here are the types of outfits commonly employed by those who fish for blues by boat. Uppermost is a light, offshore trolling rod with 3/0 to 4/0 reel. Center is a boat rod with a star drag reel spooled for 150 to 200 yds. of line. Bottom is a salt-water spinning outfit.

the boat and down deep you may have to let out up to 100 or 150 feet of line. If the tide is running slowly or at a moderate speed, a sinker is unnecessary. To get the bait, down quickly, strip line off the reel by hand to create slack. If the tide is strong, put a clincher sinker or two on the leader above the hook and the bait will sink more readily.

When a bluefish grabs your drifting butterfish bait you'll know it. He takes off on a fast, purposeful run, and you have to be careful the reel spool doesn't over-run. To prevent this, keep your thumb on the line with a light pressure at all times so that line can be taken without causing loose coils. When you first get a "pick-up" from a blue don't try to set the hook—let him run 15′ or 20′ with the bait. Then bring your rod tip smartly back to set the hook.

Trolling for blues

You can troll for blues offshore, just beyond the breakers along the surf, or in inlets and bays. They'll go for a wide variety of lures. Offshore, the Jap feather and nylon jig are

[*continued on page 70*]

NOW—spray your boat clean and shine the deep-down beauty back!

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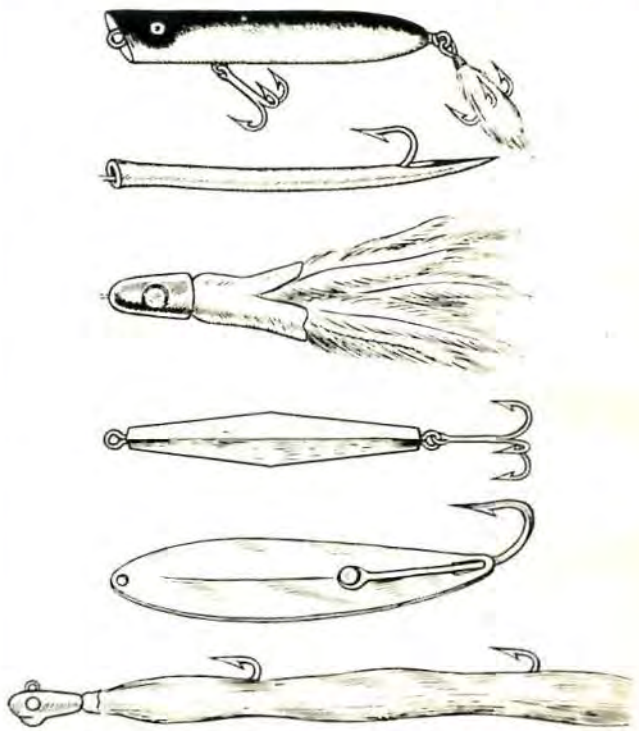
Singing the Blues

[*continued from page 68*]

favorites. Polished spoons, metal squids, cedar jigs, and underwater plugs are also good. One of the most effective, used in New York and New Jersey waters, is the rubber surgical tube lure. A killer for big blues is the nylon eel with strips of pork rind attached to the hooks. For night trolling you can't beat an eelskin lure or a rigged, live eel.

When the blues are feeding on top, chasing baitfish, lines can be trolled without weight and at good speed to keep the lure near the surface. Speeds of up to 8 or 10 knots will often interest surfacing blues. However, there is no hard and fast rule, and the speed that proves successful in one direction may not prove productive when you've turned and are heading the opposite way. Then, too, some lures



These, starting from the top, are among the lures that take blues: surface popping-plug; rubber surgical tube lure; Jap feather; diamond jig; spoon; nylon eel.

work best at slow speeds, while others require a fast moving boat to bring out the action. Get used to varying your speed to suit the circumstances.

You'll find that you can often locate blues by sight. Birds are a tip-off and sometimes you'll spot the fish themselves breaking water. Such fish should always be circled so that the lures swing into the edges of the school. Cutting through the school will put them down. However, even after they go down you can usually pick up a few by running the boat back and forth over the area.

When shallow trolling doesn't produce, deep trolling with wire or weighted lines will often pay off. If you don't have wire line try adding a trolling weight of 6 or 8 ounces ahead of the lure. However, for really deep-trolling you can't beat solid wire line, and avid bluefish trollers generally carry wire-loaded reels specifically for deep trolling. At least 300 feet of wire is recommended. The reel should have a strong metal spool, and under the wire line there should be 100 yards or so of braided nylon or dacron.

[*continued on page 72*]

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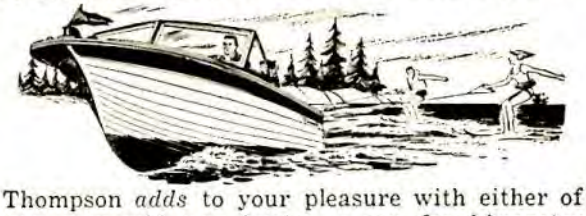

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Singing the Blues

[*continued from page 70*]

Wire can give you trouble if you don't handle it properly. It tends to over-run on the reel and kink. One trick is to put the rod in the rod-holder and engage the "click" on the reel—then throw the reel on free spool. Strip the line off the reel by hand to get it started, and, once you have a good length out, the moving boat will strip more off the reel automatically.

Deep trolling is usually done at anywhere from 3 to 5 knots, but here again it pays to experiment until you find the best pace for the existing conditions. The usual procedure is to let out your wire line until you feel the lure bump bottom a few times. Keep it there as long as it is bumping bottom. If it fails to do so, then let out line until it does. If, on the other hand, the lure drags bottom, reel in a few feet of line. Trolling wire lines is a deadly and effective way to take blues, especially during the summer months. But it is less sporting and more work than my favorite method of catching these blue demons.

Casting for blues

The method I prefer above all others is casting to a school of bluefish feeding on the surface. For this I use a light, one-handed, salt-water spinning rod that's about 7' long. A fresh-water or light salt-water spinning reel filled with 8-lb. test monofilament line completes the outfit. With it you can cast the smaller lures—plugs, spoons, metal squids, and jigs—that the fish go for.

Schools of blues may show up anywhere—in bays, inlets, sounds, or along the beaches. One of the most consistently productive haunts is the mouth of an inlet emptying into the ocean. Here the blues gather to feed in the tidal rips and around the sand bars, where baitfish, such as spearing or silversides, sand eels, anchovies, sardines, mullet, and small menhaden abound.

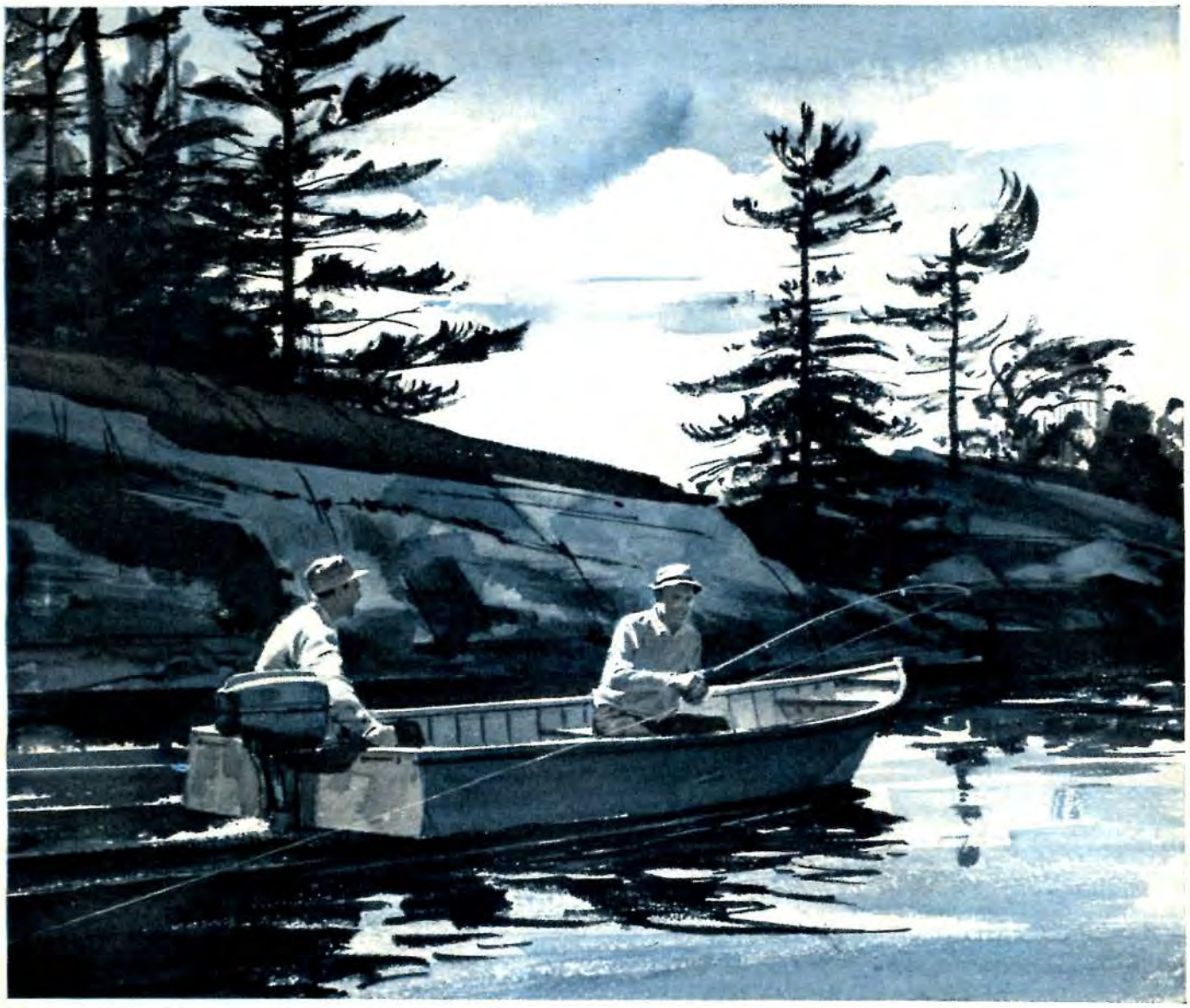
Most of the action on top comes during the morning tides, right after daybreak. Other good times are late afternoon and at dusk. For this fishing, I like a relatively small open boat, with no more than two anglers casting at the same time. You cruise around until you spot some birds working or see fish breaking the surface. You speed to the spot and, when you are about 50 feet away from the edge of the school, cut the motor and start drifting.

One of the best lures and one which offers the most spectacular fishing when blues are on the surface is a small, surface popping-plug, about 3" or 4" long. Cast this into the school and retrieve it fairly fast, with short pauses and jerks. It should throw a spray and leave a ripple.

Surface action seldom lasts very long. The blues go down and swim off to come up in a different spot. Too many boats cutting through the water tend to put them down quickly. When they disappear you start your engine and look for another school.

When bluefish aren't showing on top or have gone down after a brief period of surface feeding, try fishing for them below the surface. Here a heavy spoon, jig or metal squid can be cast out and allowed to sink several feet before being retrieved. When they're down near the bottom a diamond jig is effective. Allow it to sink almost to the bottom, then work or "jig" it up and down.

Right now bluefishing is at the peak of a cycle that seems to span about 10 years. Soon the action will begin to taper off. So, what better time to get acquainted with blues than this season, while they're there en masse?—



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Underwater National Parks

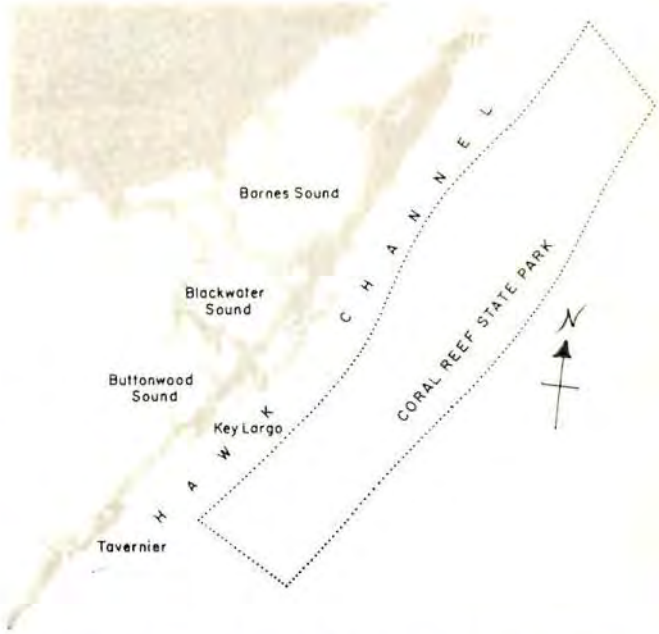
[*continued from page 43*]

Charter Boat Association, Yacht Haven and the Bay Shore Marina Boat Rental Service, Nassau or the Staniel Cay Yacht Club, Staniel Cay, Exumas, will arrange charter cruises, or rental of power and sailboats of all sizes. If using your own boat, diving equipment, guides, instructors, dinghies, or charter trips can be arranged in Nassau through M & M Underwater Tours, Ltd., at Yacht Haven, and Bahamas Water Sports, Emerald Beach Hotel or in Staniel Cay through the Staniel Cay Yacht Club. Rental of complete diving equipment averages $12 to $15 a day, and guides or instructors can be hired for approximately $15 to $20 a day. If using scuba, compressed air can be purchased in Nassau from M & M Underwater Tours, Ltd., or Bahamas Water Sports, and in the park area from the Staniel Cay Yacht Club. Shore accommodations in Nassau average $20 to $40 a day during winter months, and $10 to $20 a day during summer months.

The trip to and from Nassau cannot be completed in one day, and visitors should plan at least a two or three day trip. In the Exumas you are pretty much on your own and

[*continued on page 90*]

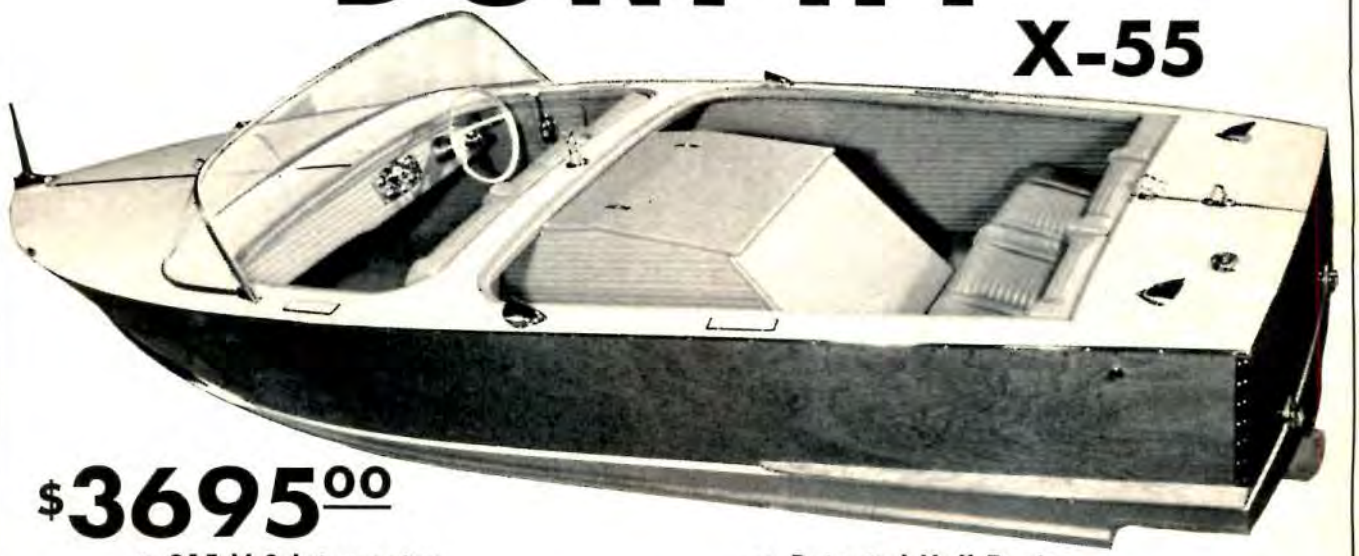
Outlined areas show location of parks in Florida, Bahamas.



Coral Reef State Park spreads three miles off the Keys.

DUNPHY

X-55



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UNIVERSAL MOUNTING

Above: Bulkhead mounting.

Below: Under-dash or overhead. Plate can also be arranged on bottom of cabinet.

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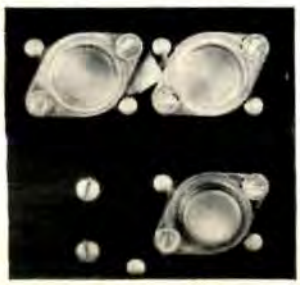

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Popular Boating test-rating box score	Excellent	Above Average	Average	Below Average	Poor
Safety			●		
Comfort		●			
Durability	●				
Adaptability		●			
Styling			●		
Performance		●			

Uniflite 29

Classification: Tri-engined fishing/express cruiser.

Dimensions:

L.O.A.—29′
Beam —9′8″
Draft —2′4″
Cockpit length—11′6″
Freeboard forward—4′3″
Freeboard aft —3′6″
Cabin headroom —6′1″
Cockpit width—8′

Displacement: 8,600 lbs., powered as specified below.

Accommodations: Galley, enclosed head, and sleeping for three people on upper and lower, 6′5″ x 27″ berths formed by a lounge on the starboard side at the after end of the cabin, and a convertible dinette (port side, adjacent to the lounge), which makes into a 7′ x 3′3″ berth.

Construction: Fiberglass, with molded-in, fir, longitudinal stiffeners and keel. The five-ply lay-up embodies a layer of 8 oz. glass cloth, followed by a layer of 2 oz. glass mat, a layer of 24 oz. glass roving, another of 2 oz. mat, and another of 24 oz. roving. Including the 10–15 mil. gel coat, glass to resin ratio is approximately 50:50. Wooden reinforcements are glassed in with 2 oz. mat and 24 oz. roving.

Equipment: Deck hardware, including stainless steel handrails and cockpit railing; International navigation lights; three cabin lights; Morse throttle and shift controls; electric windshield wiper; electric horn; bilge blower; bilge-pump; fire extinguishers; ship's bell; stainless steel water tank and galley sink; icebox; three-burner propane stove; cabin carpeting; foam rubber mattresses and cushions; Navy top, and combination transom-boarding-platforms-and-fish-boxes.

Propulsion: Twin Eaton Interceptor 215 inboard engines, each developing 215 hp at 4,000 rpm, and a MerCruiser 110 hp outdrive power plant, the latter intended primarily for trolling.

Performance data, with only the twin 215 hp Interceptors operating:

rpm	mph	gph both engines	mpg
2,200	14.3	12.2	1.17
2,400	16.0	14.8	1.10
2,600	24.6	16.0	1.54
2,800	27.1	16.8	1.61
3,000	29.1	19.6	1.49
3,200	31.7	22.4	1.41
3,400	32.9	25.0	1.32

Note: with both Interceptors turning at 3,550 rpm, and the MerCruiser outdrive running at 5,000 rpm, a top speed of 34.5 mph was recorded.

Price: $17,995, equipped as tested. Without the MerCruiser outdrive trolling unit, the craft is priced at $15,895.

Builder: United Boatbuilders, Inc., Bellingham, Wash.

By Hank Wieand Bowman

POPULAR
BOATING tests

Uniflite 29

Not one, not two, but three power plants contribute to the distinctiveness of this sturdy and rakish fiberglass cruiser

I doubt that I'm the first of my breed to check out a tri-engined pleasure boat, but I'm pretty sure that there haven't been many ahead of me. The Uniflite 29, a fiberglass cruiser by United Boatbuilders, Inc., of Bellingham, Washington, is such a craft. As those familiar with the region of her origin will have surmised, fish—salmon in particular—account for the third engine, which is intended for trolling, rather than speed-boosting. Located between the two main power plants, the trolling unit is a MerCruiser 110 outdrive, the business end of which is carried out of the water, except when the boat is engaged in trolling or in the event the main engines conk out.

United Boatbuilders, Inc., headed by Art Nordtvedt, president, and Jack Thomas, vice president and treasurer, produces 54 stock models ranging from 8′ to 42′ in length, the latter being the largest fiberglass powerboat currently built on a production-line basis. I picked the Uniflite 29 as my test subject because she falls in the midrange of the line and because of her unique propulsion system.

I rated her average for *Safety*. Features that prompted me to do so included the craft's rugged construction, the laminated safety glass used on the sliding cabin side windows, the curved windshield sections of Plexiglass, and the well-vented and sound-insulated engine room. A bilge blower is among standard equipment, and the Interceptor engines incorporate a vapor-proof, flame-arresting and drip-collecting system that confines all raw gasoline within the intake system, where it is drawn off by engine vacuum and consumed. Visibility from the helm is good at any speed, although the white deck does produce annoying glare when you're heading directly into the sun.

The engine hatch in the cockpit sole is particularly well designed. Metal trim, devoid of cutting edges, is a rounded extrusion that fits into a channel set in the

[*continued on page 78*]

The 29-footer's main propulsion system, twin 215 hp Interceptors, affords top speed of just under 33 mph.

Although there is little wetted surface forward when she's on a plane, the ride is level, visibility good.

Planing trim and flared foresections that deflect seas and spray, make her dry, even at speed in a chop.

This stern view shows combination boarding-platforms-and-fish-boxes and the outdrive unit between them.

Uniflite 29

[*continued from page 76*]

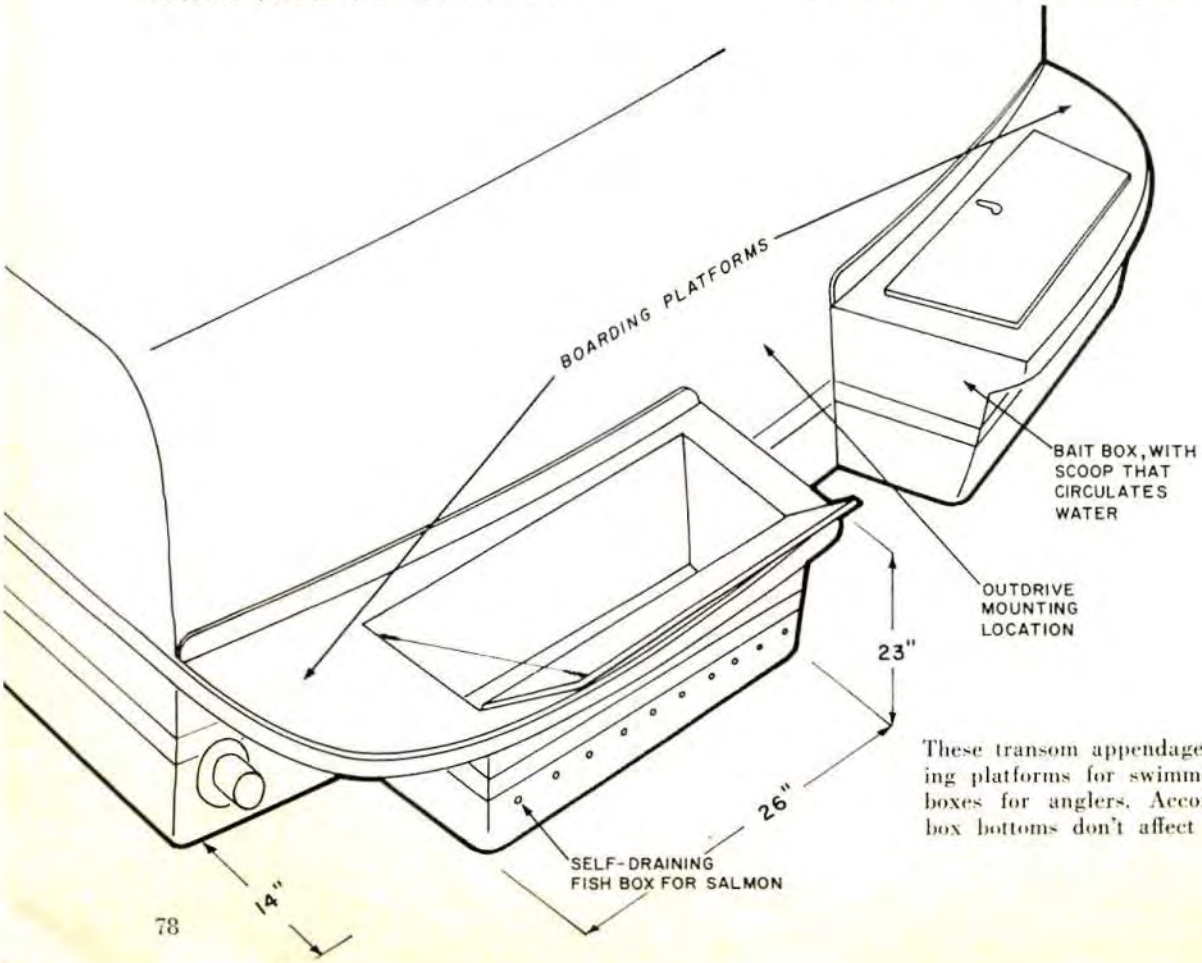
sole. Hardware was obviously chosen for safety and durability, without regard to cost, as everything I inspected was the best of its kind. There is safety railing all around and, on the cabin top, well-positioned and solidly-fastened grab rails. The 80-gal. gas tank is baffled, securely anchored, and properly vented and grounded, and the boat's wiring system is heavy duty, fused, and fitted with a main power disconnect.

I encountered few minus features, but among them were the galley's three-burner propane gas stove and the absence of N.F.P.A.-prescribed caution signs. The National Fire Protection Association looks upon bottled gas stoves as being potentially hazardous on boats, stating that their "vapors may tend to sink to the bottom of an enclosed compartment into which they are released, will diffuse throughout, and are not readily dispelled by overhead ventilation." Therefore, the agency recommends that two precautionary signs be prominently posted aboard boats with bottled gas cooking facilities. None were visible on the Uniflite.

[*continued on page 80*]

Interior, shown here looking forward, is light and airy, but space has not been fully utilized.

Uniflite 29's deep, railed cockpit is spacious, safe for children, and free of fishing obstructions.



These transom appendages serve as boarding platforms for swimmers, bait and fish boxes for anglers. According to builder, box bottoms don't affect the boat's speed.

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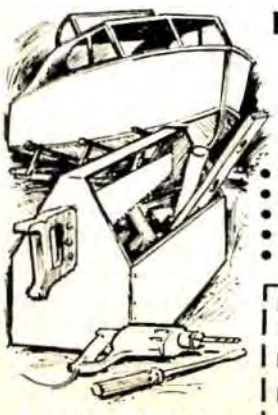

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Uniflite 29

[*continued from page 78*]

The craft's bronze seacocks, although expensive fittings, lacked integral shut-off handles. Opening or closing them entails the application of a wrench, which could complicate matters in an emergency. Not to be overlooked is the fact that the toilet in the head wasn't equipped with a chlorinator.

Another minus mark stemmed from the fact that the tops of the batteries were not protected. I felt, too, that their location was poor. They are forward of the engines, in a spot hard to reach for the purpose of adding electrolyte or to check cells with a hydrometer.

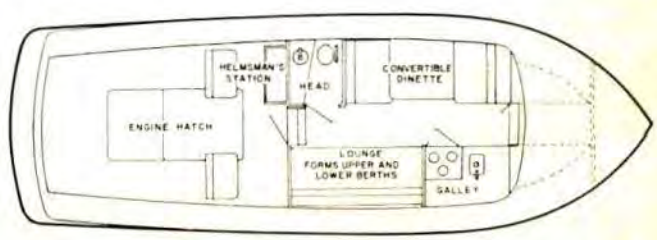
Comfort is above average. The boat gives a remarkably smooth ride and one could enter the forepeak area when traveling relatively fast over four-foot waves without experiencing any unpleasant pounding. The cabin, which has acoustical headlining, isn't noisy when the engine is running and the cockpit is likewise quiet and vibration-free. Both the dinette and convertible lounge are comfortably cushioned and upholstered, as is the helmsman's seat and the ($15 optional) companion seat. In front of the latter is a convenient, flat, tray surface that can be used as a chart table.

Below, a dinette converts to a berth 7′ in length and 3′3″ in width. This will accommodate one person comfortably. The convertible lounge makes up into a pair of very comfortable roomy single berths, 6′5″ in length and approximately 27″ wide. There are drawers under the dinette, in the galley, and under the settee. Additional storage is provided behind the settee backrest, and there is a small hanging locker forward of the dinette.

In the *Adaptability* category, she rates above average. The trolling engine and bait wells (described and pictured on page 78) add to her desirability as a fishing boat. She is fast, although within her displacement range—about 8,000 pounds—there are faster production boats. Her biggest asset is her ruggedness, which, coupled with good design, renders her able in all kinds of weather. In this respect I consider her superior to most pleasure craft of her size. A limiting factor is her cruising range, which varies from about 94 miles at 2,200 rpm to slightly under 130 miles at 2,300 rpm—her most economical speed. See performance data on page 76 and the 2,300 rpm data in particular. These findings were made with two persons aboard, approximately 60 gals. of gas, and little other gear. Hence, 130 miles should be considered maximum expectancy. I think that a pair of 60-gal. tanks, which would offer a 140–190-mile range, would give her a great deal more flexibility.

She rates excellent from the standpoint of *Durability*. Uniflite pleasure craft are built with the same care and under the same controls as the Navy contract work which makes up approximately 40 per cent of the company's

[*continued on page 82*]



The Uniflite 29 sleeps three comfortably, four in a pinch.

Specially designed to ride softly in the choppy waters of lakes and sounds

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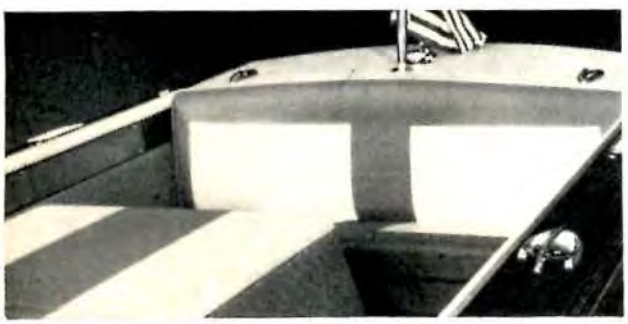

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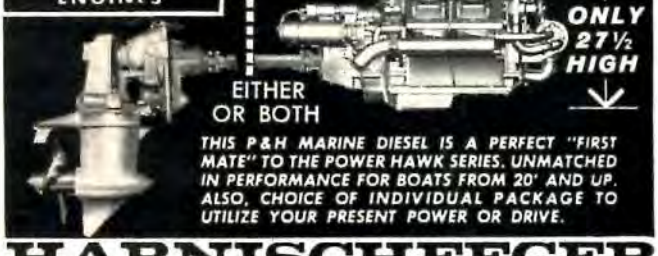

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Uniflite 29

[continued from page 30]

annual gross business. No ferrous materials are used, and the following specifications apply to fittings: engine mounts, micro-adjustable rubber; full flow engine water cooling system in which the high-volume water flow dampens engine noise and eliminates exhaust fumes; copper exhaust piping and fuel lines; anodized aluminum metal trim; brass or bronze fastenings, with chrome plate over brass hardware; a bronze, self-aligning shaft log, and manganese bronze rudder and strut.

The Uniflite rates average in *Styling* for an express cruiser in her size and price range. The varnish finish on the mahogany paneling in the cockpit, wheelhouse station, and main cabin is as fine and carefully executed as any I have ever seen. Care has been taken to hide all control cables. The control station and instrument panel is tasteful and well instrumented with ammeters, oil pressure gauges, water temperature gauges, and tachometers for each power plant. Neatly-conceived, cabin-overhead hatches afford access to wiring without removing the vinyl-fabric headlining. There are boarding steps and non-skid step pads on either side of the cockpit.

The main reason that I didn't rate her higher on the styling count was the fact that interior space hadn't been utilized to the fullest extent. A look at the accompanying arrangement plan will reveal considerable unused space beneath the foredeck. An undersized chain locker accounts for the foremost 4' of the underdeck area, but the remaining space houses nothing more than an odd fore-and-aft seating arrangement. No one was able to come up with an explanation for the seemingly impractical utilization of the area, which easily could have accommodated a berth, or lockers and shelves. The chain locker, although large enough to hold anchor lines, is too small to accommodate an anchor and is not fitted with a hawse pipe. The anchor aboard the test craft was stowed in the bilge.

Bunk cushions are an attractive red, orange and gold, and the dinette cushions are white. Side curtains slide on tracks. The galley sink is stainless steel and deeper than average, but otherwise relatively small, so that it would be difficult to wash large items. Although the appearance of the interior is bright, cheerful, and in good taste, I think that more thought could have been given to its arrangement.

I rated her above average in *Performance*. She has a nice turn of speed, offers better than average economy for the power applied, and has that added advantage of an extra engine specifically for trolling. She carries herself well in the water at any speed and at cruising rpm rides gracefully and cleanly, with a minimum of wetted surface forward . . . yet does not lift her bow excessively.

The Uniflite 29's builder plans to establish an additional building facility on the Atlantic seaboard. The firm expects to have the new plant in operation by early 1964, so this already popular West Coast boat may also become a favorite in the east.—

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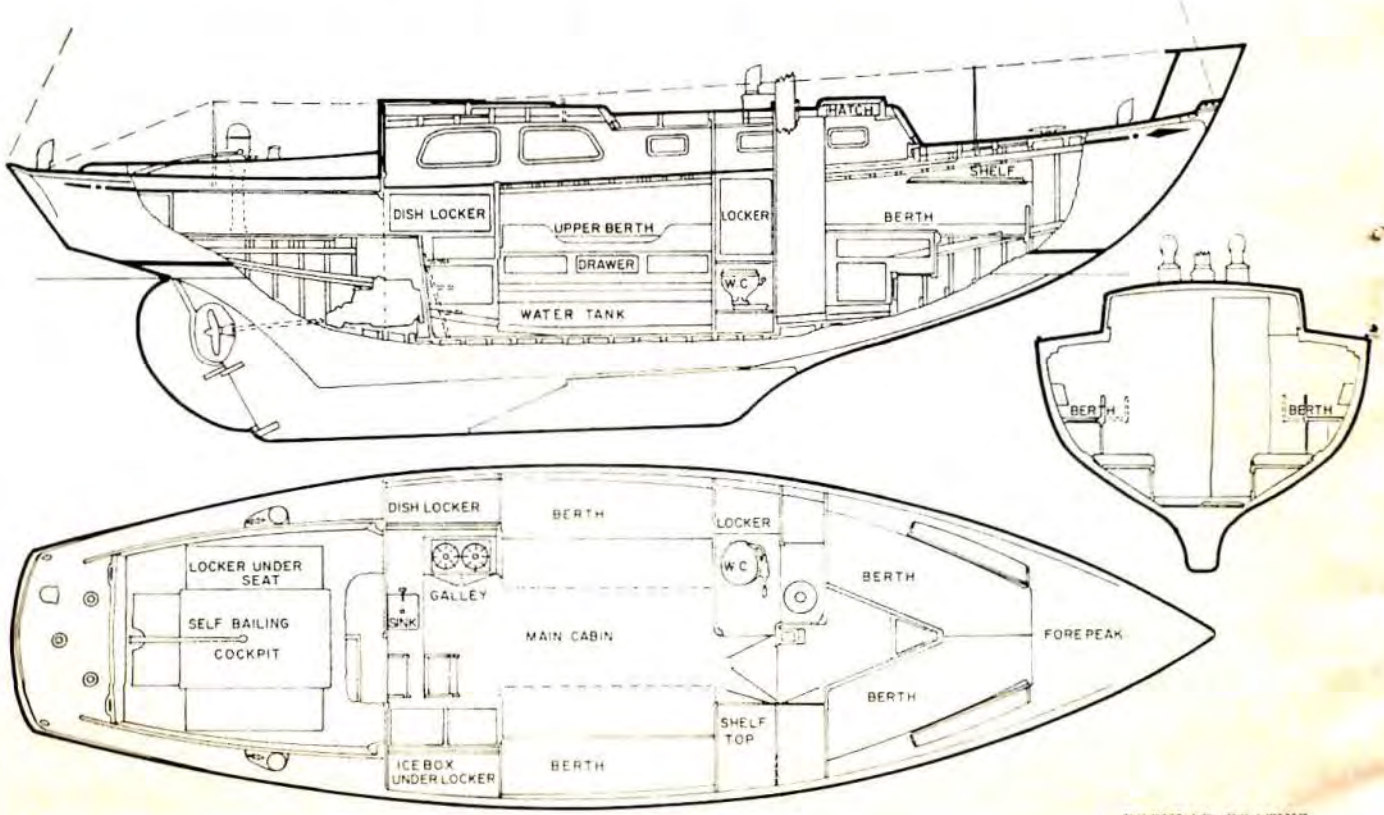
542 E. Squantum St.
Quincy 71, Mass.

Dimensions: L.O.A. 34′10″
L.W.L. 25′7½″; Beam 10′0″
Draft 4′8½″; Displ. 14,100 lbs.

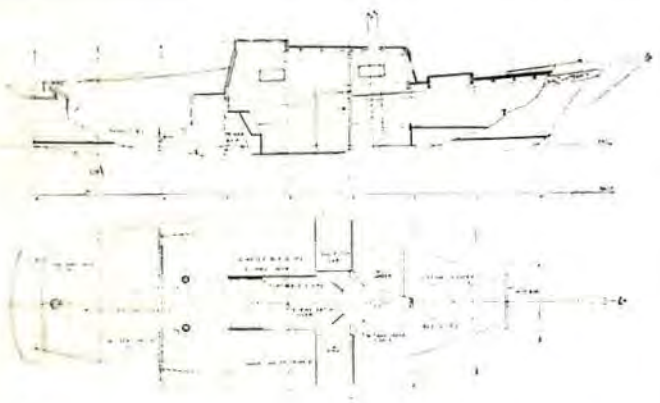
The Tor 35 was developed to fill the need for a modern cruising-racing boat that is both a comfortable and livable cruiser, and a smart, fast sailer. She is a development of a boat originally designed by Eldredge-McInnis in 1959. The interior arrangement and the sail plan have been modified from the earlier design. According to her designer, "the Tor 35's hull is unusually dry in heavy going due to a slight flair forward and the absence of U-shaped sections above the waterline. The racing potential, within the class restrictions, is unlimited with an able skipper at the helm. She boasts a very low, measured C.C.A. rating of 23.9 as a sloop." The hull is double-planked Philippine mahogany over a keyaki backbone, the decks are fiberglass over plywood, and the interior and exterior trim are mahogany. The Tor 35 is powered by a Gray Sea Scout 25 hp engine, with diesel power also available. The boat, offered with either sloop or yawl rigs, is marketed in this country by the Tor Trading Co., Inc., 120 Wall Street, New York 5, N.Y.



Yeoman, a new stock sloop

Designer: Richard P. Ketcham Jr.
140 Hampton Blvd.
Massapequa, N. Y.

Dimensions: L.O.A. 23'0"
L.W.L. 20'0"; Beam 7'4"
Draft (board up) 2'0", (board down) 4'6"



An interesting design feature of this little sloop is that her centerboard is completely housed within the ballast keel, providing additional room below, and preventing leakage problems. The boat is being built by Long Island Yacht Sales, Laurel Ave., Northport, N.Y., and has a ½" mahogany plywood bottom and ⅜" plywood sides and deck, the latter fiberglassed. A single cylinder Palmer is recommended, but she can take outboards up to 10 hp. Yeoman is offered in various stages of completion, with a second accommodation plan and gaff rig also available.

Now Available . . .

65' WHEELER 1958 Promenade Yacht, GM 6-110 diesels
111' QUINCY ADAMS 1943 Yacht, twin 500 hp. GM diesels
50' CHRIS-CRAFT 1959 Flush-Deck Yacht, GM 6-71 diesels
42' STEPHENS 1961 Cruising Houseboat, 225 hp. Chryslers
51' GREBE 1932 (rebuilt 1952) Yacht, 225 hp. Chryslers
48' HUCKINS 1954 DC/FB Cruiser, 200 hp. Chryslers
42' CHRIS-CRAFT 1959 Constellation, 225 hp. Chryslers
40' WHEELER 1962 Conv. FB Sedan, 225 hp. Chryslers
45' CHRIS-CRAFT Constellation, 275 hp. Chris-Crafts
42' MATTHEWS 1956 DC/FB Cruiser, 200 hp. Chryslers
42' SAMPLE 1954 FB Sportfisherman, 200 hp. Chryslers
40' RICHARDSON 1961-62 DC/FB, 225 hp. Grays
56' MORTON JOHNSON 1938 (rebuilt '57) DC/FB, GM 6-71s
40' COLONIAL 1959 DC/FB Cruiser, 225 hp. Grays
38' RICHARDSON 1956 Express, GM 4-51 diesels
38' FERCRAFT (Can.) 1959 Express (steel), 300 hp. Crusaders
43' WHEELER 1941 FB Sportfisherman, 300 hp. 1962 Palmers
38' KULAS 1960 Flybridge Sportfisherman, 225 hp. Grays
40' RICHARDSON 1954 DC/FB Cruiser, 150 hp. Grays
36' CHRIS-CRAFT 1961 Constellation, 185 hp. Chris-Crafts
34' CLAYTON 1959 Flybridge Sportfisherman, 225 hp. Grays
42' CHRIS-CRAFT 1952 DC/FB Cruiser, 145 hp. Chris-Crafts
40' CHRIS-CRAFT 1949 DC/FB, 145 hp. 1959 Chris-Crafts
32' CHRIS-CRAFT 1958 Express, 130 hp. Chris-Crafts
31' EGG HARBOR 1959 TC Cruiser, 135 hp. Palmers
33' COLONIAL 1958 TC Cruiser, 125 hp. Chryslers
31' CRUIS-ALONG 1958 Express, 170 hp. Grays
33' CHRIS-CRAFT 1956 Futura Express, 190 hp. Chris-Crafts
30' PEARSON 1964 Fibreglas Express, 188 hp. Grays
38' WHEELER 1940 Sedan Cruiser, 95 hp. Chryslers
32' CHRIS-CRAFT 1951 Express, 145 hp. Chris-Crafts
30' EGG HARBOR 1956 TC Cruiser, 110 hp. Chryslers

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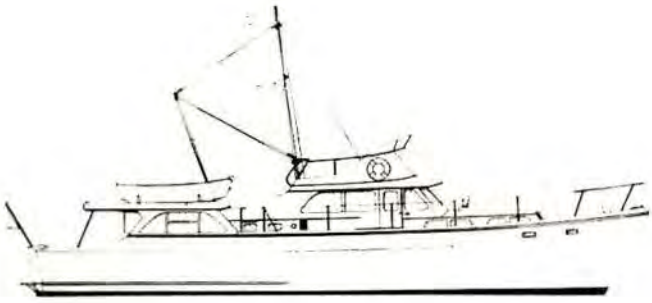
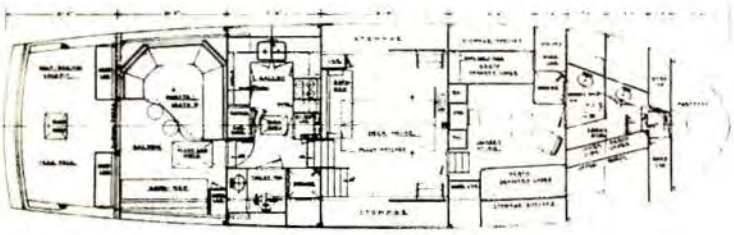
YORK RIVER YACHT HAVEN GLOUCESTER POINT, VIRGINIA

The versatile Yankee Clipper class

Designer: Miles D. Fitch
Ocean Point Road
East Boothbay, Me.

Dimensions: L.O.A. 54'10"
L.W.L. 50'0"; Beam 16'0"
Draft 5'0"; Displ. 40,000 lbs.





The Yankee Clipper Class is the latest in a series of combination displacement and semi-displacement type hulls developed by Mr. Fitch. According to the designer, "considerable planning went into her development to insure a well-integrated design to bring out the utmost in a boat." For example, the large, airy owner's stateroom is located well forward, away from the noises of the exhaust, and people moving about on deck. The large dinette seats eight comfortably, and incorporates a snack bar with two stools—situated to offer a panoramic view. The aft cockpit can be fitted with fishing chairs and or a portable diving board. Planking is Philippine mahogany over oak frames.

Flat-Out Power

[*continued from page 53*]

standards. The finished product is arranged fo
servicing from above. Everything is easily acc

The end product weighs 630 lbs. and, with rev
tion gear for away-from-the-transom installatio
at $1,390. Angle-drive or V-drive kits are an
$200. The Space Saver 145/Drive 90°, engine-and-outdrive package is priced at $1,990.

"The Drive 90," stressed Newman, "provides the tilting advantages of the outboard, without hanging a heavy unit on the transom. It tilts up for trailering, tilts on striking an obstruction, and actually takes up less usable space than a large outboard. Developed to our specifications by the Dana Corporation, its disc-type friction clutch automatically disengages engine power when a shift is made. This eliminates *clashing of gears* and the engine can be run fast enough so there's no danger of stalling when maneuvering. Engine and outdrive are isolated from the hull by rubber cushions, which greatly reduces vibration and noise.

"Our tests indicate that the Space Saver 145/Drive 90 package, will deliver the same performance under many conditions as two 100 hp outboards," said Newman. "This is due to the fact that the drag of the underwater gearboxes of the two outboards more than makes up for the horsepower difference, particularly at higher boat speeds."

So spoke the Chrysler project head. His words reflect the firm's painstaking approach to the perfection of the new engine and its enthusiasm over and confidence in the fin-

product. Low-profile engines are nothing new. Chrysself has been producing a flat, 8-cylinder model that's 21" high. The Palmer Engine Co., in 1958, introduced nely low-profile, 6-cylinder, 120 and 135 hp, inclined s. However, the Space Saver 145 not only marks a w, but will lead to still more compact powerplants in the upper hp ranges. The diagrams on page 53 illustrate the desirable added latitude afforded naval architects by such engine-height reductions, and the compatibility of flat engines and outdrives are made obvious.— ⚓

Longer-lasting calking that is easy to apply

PRC MARINE RUBBER CALK is different, ideal for calking sail or steam. Now you can calk it once and forget it.

This new sealant needs no mixing, is amazingly easy to apply in calking stem posts, combings and decks, sealing ports or bilges, and even bedding double planking. It is the **only** such "no mix" product available for marine use.

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ADDRESS_____

CITY_____ ZONE___ STATE_____

DEALER INQUIRIES INVITED

Underwater National Parks

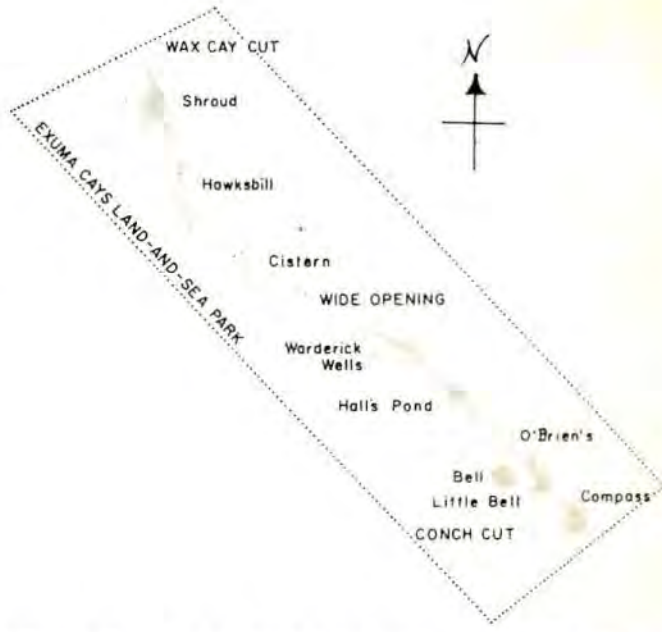
[*continued from page 74*]

it is possible to sail for days without seeing another boat. The park is primarily a yachting park and offers spectacular scenery as well as challenging sailing. A copy of the Yachtmen's Guide to the Bahamas will provide helpful information. There are no restaurants or land accommodations within the areas, and visitors have the choice of living aboard their boats, or hardier souls can camp out on any of the unoccupied islands.

The Exuma Cays Land and Sea Park (sponsored by the Bahamas National Trust and supported by private contributions) has a few trails completed to date. Within a short time park authorities expect to cut an extensive series of land and underwater trails. The purpose of the park is to preserve wildlife on shore and in the sea. At the present the islands cater to expanding flocks of flamingos, the national bird of the Bahamas. On any of the cays, visitors can see orchids, parrots, spoonbills, herons, mockingbirds, and rare lizards—curly-tailed lizards that are so tame they will take food out of your hand—and iguanas that grow up to four feet in length.

The underwater trails are only partially cut, but when completed, there will be series of short, circular trails along spectacular coral formations where divers can observe colorful rock formations, butterfly fish, angelfish, and gobies—the curious toothpicks of the sea that pick the teeth and scales of other fishes.

Facilities in the Exuma Cays Land and Sea Park are not what you'd call luxurious, but if you like to live close to nature, there is no other area like it.—⚓



Exuma Cays Land and Sea Park is about 50 miles southeast of Nassau. It extends from Wax Cay 22 miles to Conch Cut. Many trails here are still being developed.

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New, Instant Water Skiing

Now, beginners can be up atop the water and skiing in less time than it takes to read this

Not long ago a five-year-old slipped on a pair of water skis and, on her first try, got up on them and skied. A short time later, a 300 lb. truck driver did the same thing. They both taught themselves to water ski using a new invention called the Skee-Trainer. Ordinarily, teaching someone to water ski entails considerable explaining, pulling, and re-explaining. The fun doesn't begin until the beginner is capable of getting up on his boards consistently and staying there awhile.

The brainchild of water-ski champion Stewart Leonard, the device weighs 29 ounces and floats. It looks like an oversize ski handle shaped in the form of a U. Your own ski rope and tow bar connect to it. For the beginner using this teaching aid, the fun begins as soon as he slips his feet into the ski bindings and gets into the water. Skis are as easy to ride as a surf board. You simply slip the Skee-Trainer over the tips of your skis, press down on the handle, then give the boat driver the signal to start. Pressing down on the bar clamps your skis, straight and parallel, through leverage, and at the same time transfers the boat's pull from your arms to the skis. The boat tows you quickly to the surface and whenever you're ready you simply stop pressing down on the handle and the trainer slides off the skis. Stand up and you're skiing, still holding onto the trainer, as you would an ordinary tow bar.

After three or four starts and runs with the aid of the trainer, the beginner can lay it aside and do equally well using the standard tow bar. The trainer in no way prolongs the learning process; it doesn't tend to make one dependent on the device. So, if you want to simplify the task of teaching your friends to ski, or if you're the one who'll be learning, Leonard's Skee-Trainer may rate a place among your water-sports equipment.

Stew developed the unit to ease his own instructing chores. Let's hope he hasn't put himself out of business by releasing it for manufacture. Puritan Cordage Mills, Louisville, Ky., recently negotiated with him and now produces the unit for sale through dealers at just under $10.—

Downward pressure on hand bar of this uncomplicated beginner's aid postures both skis and skier for start that gets them up and going the very first try.

With the Skee-Trainer, novice's knees are correctly braced and she can't pull herself up, but must let the boat do it—which is proper procedure.

Once you get used to the feel of being on top, just stop pressing down on the handle, and stand up. Frame slips smoothly off skis. Tow line remains taut.

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You get a full refund on both camera and color film if you are not fully satisfied with the pictures you take!

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How much does this FUJICA cost?
Less than **$100**, and with the money back guarantee . . . you risk nothing.

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Fully Automatic Auto-M 35

FUJI PHOTO OPTICAL PRODUCTS INC.
111 Fifth Ave., Dept. A-79, New York 3, N.Y.
A subsidiary of Ehrenreich Photo-Optical Industries Inc.

"And There I Was . . ."

[*continued from page 48*]

and seeing illusory sails everywhere. However, there were real enough boats around. These were steamers, charging along, keeping to the coast for what shelter there was, now that there was a hint of east in the wind. And the foredeck committee, standing watch for'ard of the mast to make sure that none of these spray covered power efforts banged us one, sent the strains of the "Rose of Tralee" lilting dolefully and defiantly across the crashing sea and howling wind, through the drumming rain; which explains why the *Flying Dutchman* was reported near Ailsa Craig that night.

After much discussion the conclusion was reached that there was no point in keeping sail on, for, with the wind in the arc and strength it was, we were going to go scalding past the Craig and not be able to nip round and go back, which was not the purpose of the exercise. So, in came the staysail and that fantastic jib.

Nobody aboard had ever actually hit Ailsa Craig, but it was generally reckoned that if we did, we'd find it anything but soft, so we broadreached to the east more under barepoles, and with relief saw the rain-dashed glimmer of the light on the northern side of that massive rock. There were few other lights around, except for those of otherwise invisible boats charging around, with general panic as they shortened sail before trying to get out to weather again. With the sails we had, there was no hope of our joining them unless there was an easing or a freeing of the wind. Thus it was, that I found myself at the tiller, the sole occupant of the deck, save for a post-seasick crewman sleeping in the cockpit. The rest were sleeping below.

I toyed with the idea of running her off and broadreaching her out to the northwest, but I knew fine well that, unless there was a miraculous change in the weather, this first tryst at passage racing was going to end in the little fishing port of Girvan at the top of the tide at 0700 hours. So, I just let her drift on towards Girvan, occasionally rolling fiercely, but never dangerously, taking very little water on deck.

It was the most miserable, longest-drawn-out, and coldest dawn I have ever seen. But then I haven't seen that many. It was so murky, when it came, that Ailsa Craig couldn't be seen—and it usually can be seen from miles around. George emerged from the burrow and announced to the watch on deck, ". . . I'm going to be sick!"

This was greeted by the watch on deck, with considerable enthusiasm, as being exemplary skipper behavior—that of an officer and gentleman.

George threw himself half over the side and made peculiar noises for quite some little time.

George reappeared.

"I can't be sick."

After commiseration from the watch on deck, he disappeared below, saying he'd start the motor and then take a vote as to whether or not we'd put it in gear and go into port. The ancient motor started surprisingly easily. George revved it and it slipped itself into gear and democracy reeled under the blow and we were finished racing.

Local Knowledge was aboard with Tommy, the One-Armed Bandit, so called because he lost one of his pint-lifters some time or other. Nevertheless he'd been leapin' about the deck with the best of them the night before. And there he was again, walking around as cheerful as you please, guiding us in like the returning exile.

We bashed through the cross-swell at the entrance and into the calm of the little river and alongside a powerful fishing boat in the basin.

A very solid man came marching across the fishing boat, said he was a coastguard, and asked if we'd had anything to do with the race from Ireland. Very little, we said. George told me to get the decent man a wee tot, so I went below and opened a bottle of Scotland's greatest export that we'd recently reimported. The only thing to put it in was a big tin mug, so, by the time I'd put a civilized looking amount in the bottom of this thing, the bottle was a bit down.

I handed it out to Tommy.

"There's only enough here," says he, "to cover the bottom of a five gallon drum."

The coastguard drained it like the dregs of his morning tea.

"Hollow legs," said George.

The coastguard took his leave as a party got underway at that selfsame delightful hour of 0700. We found we'd only a few shillings between us, but by the time the bottoms of a few more five gallon drums had been dried, Tommy was sitting on the deck of the fishing boat with his yachting cap at his feet, showing how he was going to spend the day up in the town. "Lost to a shark, as ye can see, ma'm. Spare a shilling for a distressed sailor?"

George was on top of the wheelhouse doing the Highland Fling. Offshore racing—it's the only life.—

TRADE WINDS

Marine Safety Slogan Contest

Created with the objectives: to educate—to emphasize—to prevent accidents on the water. Marine Center, Inc., Lindenhurst, L.I., N.Y. and the Seven-Up Brooklyn Bottling Company, Brooklyn and Mineola, N.Y. have announced the co-sponsorship of a Marine Safety Slogan Contest. Five monthly prizes will be awarded with the best of these proclaimed as Long Island's Marine Safety Slogan for 1964. Anyone may enter, the entries may be serious or humorous, but they must pertain to safety in marine recreation. First prize will be an all-expense paid week-end at Gurney's Inn on Montauk Point, a deep sea fishing outfit, and the use of a Marine Center Boat complete with captain and crew.

Bertram Wins "E" Award

The President's "E" award has been presented to the Bertram Yacht Company on behalf of the Hon. Luther H. Hodges, Secretary of Commerce, in recognition for outstanding contributions to the U.S. export expansion program. Since 1960, the Bertram Yacht Company has steadily expanded export sales until they now account for 15 per cent of total volume.

Judge Roy L. Morgan of the Commerce Department (left) presents "E" Award to Dick Bertram, President of the Bertram Yacht Company.

Kristal Kraft Produces PB Colors in Gel-Coats

Albert Baechle, President of Kristal Kraft, Inc., Palmetto, Fla., has announced the availability of POPULAR BOATING's Colors for 1963 (February issue) to manufacturers of fiberglass boats. The colors will be duplicated in polyester resin gel-coats on order, and costs should not exceed those for standard colors.

Houseboats Serving as Coast Guard Stations

Two new houseboats have been put into service by the United States Coast Guard. Built by Surfside 6 Floating Homes, Inc., of Fort Lauderdale, Fla., and launched early in May, the craft are 60-footers with 28′ beam. One is based at Fort Myers, Fla., and the other at Annapolis, Md.

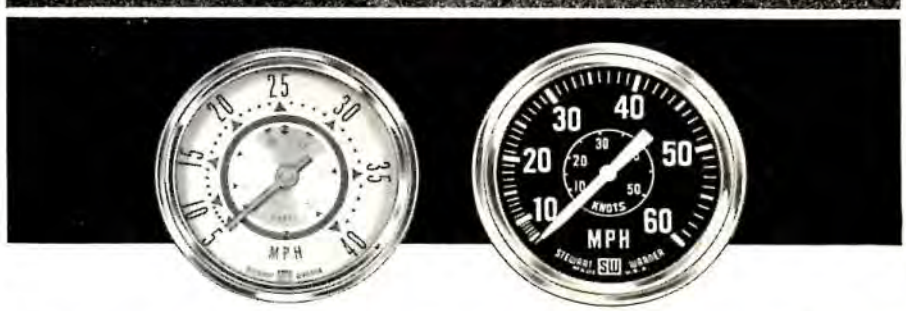
The Coast Guard cited their mobility as a major reason for their acquisition. They're easily moved from one area to another to best serve the boating public. Coast Guard officials pointed out that houseboats are not new to the U.S.C.G. Two smaller units have been serving as movable stations on the Great Lakes since 1961.

The new 60-footers will be manned by crews of ten, and each will base a 30′ rescue craft and a trailerable 16′

[*continued overleaf*]

Boat testing specialist, Robert Bergquist, tows water skiers at speeds exceeding 40 mph with this 176 hp OMC 17 Dual Deluxe. The award-winning craft is well-equipped with full Stewart-Warner instrumentation.

the experts' choice:
STEWART-WARNER SPEEDOMETERS



As Supervisor of Test & Development, Marine Engineering Boat Section, Outboard Marine Corp., Waukegan, Illinois, Mr. Robert Bergquist has used Stewart-Warner Speedometers for years . . . *under rugged test conditions*. He knows from experience how important an accurate speedometer can be, especially in water skiing, where constant speed is always a critical factor. That's why Mr. Bergquist uses and recommends Stewart-Warner Marine Speedometers, first choice of boat-builders and owners for over fifty years.

Have *you* ever thought of owning one? Talk to your expert marine dealer about it. Ask to see Stewart-Warner Speedometers . . . from the most complete line of quality marine instruments in America. We think you'll buy one on the spot!

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It must be Amphora

AMPHORA, the cool, calm tobacco from Holland that soothes the spirit and relaxes the mind. AMPHORA, fragrant and rich, slow-burning to the bottom of the bowl – mild, full-bodied Cavendish at its best. AMPHORA, the *right* tobacco for the young man who takes up a pipe, and for the veteran who seldom sets one down. This pipeful and the next, it *must* be AMPHORA, America's biggest-selling Dutch tobacco... *still only 40¢.*

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Utrecht, Holland

SPECIAL OFFER: Imported Sheffield Steel 3-IN-1 knife-style pipe tool PLUS full 2-oz. pouch of AMPHORA for $1.00. Mail to Romick's Int'l., Inc., Dept. 75, P.O. Box 3033, North Hollywood, Calif.

Trade Winds

[*continued from preceding page*]

outboard boat. Maintenance costs of the new houseboat stations are expected to be low, compared to those of shore stations.

Hydroplane Designers' Association Proposed

In the broad field of naval architecture, the problems associated with the design of hulls having speed-length ration in excess of two are quite different from those concerned in the design of slower, more conventional craft. For this reason, it has been proposed by designer Bob Hobbs, 4013 Aurora St., Coral Gables, Fla., that an international Society of Hydroplane Designers be formed to promote and encourage the exchange and publication of technical information relating to the design of hydroplanes.

Pearson Introduces New Vanguard 32′ Auxiliary

Pearson Corporation, Bristol, R.I. introduced their 32′ fiberglass auxiliary which fills the gap between the 28′ Triton and the 35′ Alberg. The new boat was designed by Philip L. Rhodes, and made its debut at Spring Off-Soundings.

Particulars of the new boat are: L.O.A.–32′6½″, L.W.L.–22′3″, Beam—9′3″, Draft—4′6″, Sail Area —436 Sq. Ft., Displacement—10,275 lbs., and Ballast Keel—4,250 lbs. She has accommodations for six and will carry an estimated C.C.A. rating of 22.2′.

Michael Potter Named President of Crestliner

Lowell P. Weicker, President of Bigelow-Sanford announced the appointment of Michael M. Potter as President of the Crestliner pleasure boat division of Bigelow-Sanford, Inc.

Mr. Potter was formerly with Chris-Craft where he served as Assistant to the President and Vice-president and Plant Manager of the Roamer Yacht Division.

November Dates Set for Southeastern Marine Trades Show

The Jacksonville Coliseum, Jacksonville, Fla., will house the Southeastern Marine Trades Show which will open to the trade on Sunday, Nov. 10; Nov. 11th and 12th are scheduled as trade-only days, with Nov. 15th-17th slated as public show days. Further details are obtainable from the chairman, Sid Gefen, P.O. Box 1313, Jacksonville.

Lloyd's Register Celebrates 60th Anniversary

It is interesting to reflect the changes that have taken place in American yachting by comparing the first *Lloyd's Register of American Yachts*, published in 1903, with the 60th edition just released. The 1903 volume was about half the weight of this year's edition, but it listed such giants as J. P. Morgan's 301′ *Corsair*, W. K. Vanderbilt's 332′ *Valiant*, J. J. Astor's 250′ *Nourmahal*, and J. Gordon Bennett's 311′ *Lysistrata* to cite a few notable examples. There remains today in this category the listing of Horace Dodge's 257′ *Delphine*, which is the largest privately registered yacht. The Rockefeller's and the Du Pont's, are still listed in Lloyd's, but the largest boat among them is a comparatively small 82′.

The 1963 edition of Lloyd's contains 1,162 pages, including 20 pages of advertisements. It lists power yachts from 35′ and up and sail yachts of 350 sq. ft. of sail and over.

No Shipping Charges on Brunswick Boats

Owens, Larson, and Cutter dealers recently received an interesting incentive-builder in the form of freight-free stock. Brunswick Boats Div. of Brunswick Corp. inaugurated a policy wherein new boats are shipped freight free to dealers in the United States; Hawaiian and Alaskan dealers excluded.

Powerboat Regatta Instruction Booklet

Deviating from its usual habit of covering regatta organization and procedures in its annual rule books, the American Power Boat Association has published the material separately in a

move to broaden its distribution. The booklet, a 20-pager entitled *Instructions For Running Regattas*, is available to those engaged in organizing powerboat regattas, on request, from the A.P.B.A., 2531 St. Aubin St., Detroit 7, Michigan.

Tap Beer For Boats

They haven't condensed the beer—that would be going too far—but they've condensed the container, added a spigot, and come up with a keg-beer package tailored just right for pleasure boats. The container holds 2¼ gals. of beer, the same amount you get in a case of 12-oz. bottles or cans, and is currently being test marketed by the Falstaff Brewing Corp. The conveniently proportioned keg is the work of the Reynolds Metal Co.

Joseph Griesedieck (left), President of Falstaff Brewing Corp. demonstrates the use of "Tapper" to David P. Reynolds, Executive V.P. of Reynolds Metals.

Hatteras Announces R & D Center

A new building has been completed at the Hatteras Yacht Company Plant in High Point, N.C. which will be devoted entirely to research and development for new models and new products.

Willis H. Slane, Jr., President of Hatteras, placed the new department under the direct supervision of General Manager Don Mucklow. Two new models are now under development for introduction in the 1964 line.

A Johnson Outboard Founder Dies

Lou Johnson, who, with his brothers Harry and Clarence, introduced the first Johnson outboard motors, died May 6, in Coral Gables, Fla., at the age of 82. His firm, which in 1922 produced and sold 3,000 2-cylinder kickers, was absorbed by Outboard Marine and Manufacturing Co. in 1936.

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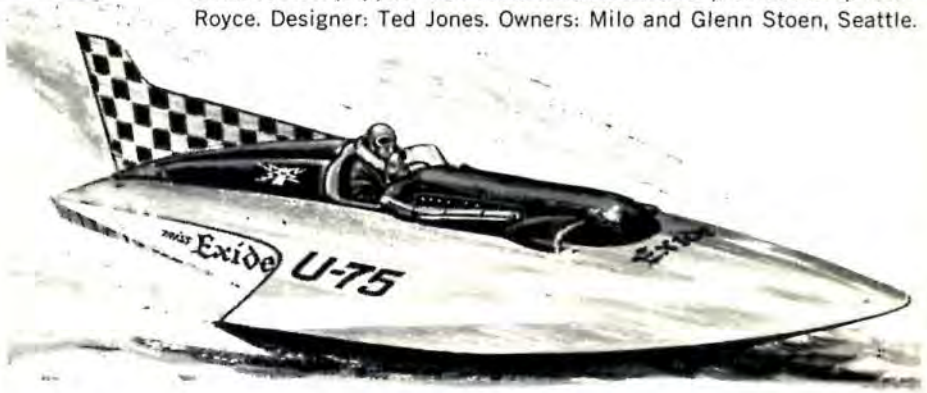

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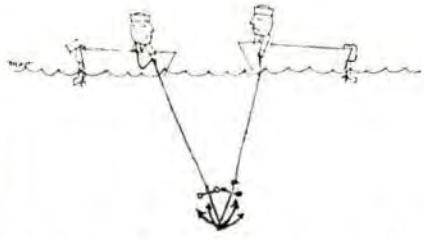
BOOKS FOR BOATMEN

The Sailboat Classes of North America, by Fessenden S. Blanchard. Doubleday & Company, Inc., 575 Madison Ave., New York 22, N.Y., 320 pages, illustrated. Price, $6.95

Every attempt to compile a list of class boats meets with criticism and complaints from designers, builders, and owners who were "left out". However, we could find little to criticize about Mr. Blanchard's endeavor.

The author has chosen 200 classes and broken them down into racing, cruising, and catamaran categories and dissected each into addresses of associations and class secretaries, builders, crew, sails, number in class, prices, and vital statistics. Each description is accompanied by a picture of the boat.

The book is of value to anyone in the market for a class boat, and should be in the libraries of yacht clubs. In addition, the book will be a handy item aboard any yacht for reference.



Sailing and Racing Catamarans, by Edward F. Cotter, Cdr., USCG. Chilton Books, 525 Locust St., Philadelphia 6, Pa., 152 pages, illustrated. Price, $4.95

Beginning with the evolution and design of catamarans from the earliest known craft in Polynesia and Malaya, the author discusses the various subjects concerning the rapidly-growing sport of multi-hull sailing and racing.

Chapters include Day-Sailing Catamarans, Cruising Catamarans and Trimarans, Racing Tactics, The Catamaran and the Race Committee, Selecting a Catamaran, Present-Day Activity and Future Trends.

Illustrations include detailed sketches and pictures of rigging and gear as well as a generous selection of photographs showing the various multi-hulled boats of today going through their paces.

As well as being an excellent handbook for the multi-hull enthusiast, the volume provides an introduction for the mono-hull skippers into this exciting aspect of yachting.

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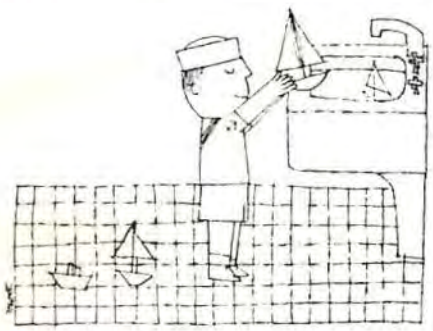
The Alluring Antilles, by J. Linton Rigg, D. Van Nostrand Company, Inc., 120 Alexander St., Princeton, N.J., 267 pages, illustrated. Price, $12.50

Perhaps the most important item about this book is the preparation that went into its making. The author spent two years cruising the islands aboard his ketch *Island Belle*, and the reader soon finds himself dreamily inspecting the various harbors from her comfortable decks.

The volume provides practical, valuable, and up-to-date information about each of the islands in the West Indies, and Mr. Rigg sparks the book throughout with interesting historical anecdotes. In addition to the well-written text, a generous collection of photographs, black and white and color, have been chosen to illustrate the charming aspects of the West Indian islands.

Whether yachtsman, tourist, or armchair traveler, you'll obtain a great deal of entertaining information from the book. We've already picked out our Shangri-La—a little island that's called Saba.



Fifty Notable Ship Portraits at Mystic Seaport, by Richard C. Maloney, The Marine Historical Association, Inc., Mystic, Conn., 63 pages, illustrated. Price, $2.00

The purpose of this book—"to focus attention upon a selection of the more important and most interesting ship portraits in the Mystic Seaport's collection of this form of art"—is successful, but the reader may find himself frustrated after looking at colorful Plate 1, then having to settle for 50 black and white reproductions. There are actually 51 paintings shown.

However, the book is a good investment and you don't have to be an art-lover to appreciate the fine salty portraits of America's early yachts, and merchant and military vessels.

Each reproduction is accompanied by a description of the ship, size of the painting, artist, and donor. At the end of the volume is a complete list of paintings in the collections of the Marine Historical Association.—

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